

County

Borough



of Bolton.

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# ANNUAL REPORT

OF THE

Medical Officer of Health,

FOR

1929.

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BOLTON :

RENT. WHEWELL & SON, 5-13 FOLDS ROAD,

1930



County

Borough



of Bolton.

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Medical Officer of Health,

FOR

1929.



PUBLIC HEALTH DEPARTMENT,  
BOLTON,

July 8th, 1930.

To the Chairman and Members of the Public Health Committee.

LADIES AND GENTLEMEN,

I have the honour to submit my annual report for 1929.

The very severe weather of the first quarter of 1929 reacted unfavourably on our vital statistics. The general death-rate and the infantile mortality rate show a considerable advance on those of 1928. Respiratory diseases levied a heavy toll on the life of Bolton during 1929, and it is quite certain that this was due to the exceptional weather.

The weather, also, must be held largely responsible for the prevalence of, and the mortality due to, influenza.

It will be seen from the table giving the figures for all the large towns of Lancashire that the influences unfavourable to life which prevailed in Bolton in 1929 were general throughout Lancashire, as indeed they were in most parts of the country.

An outbreak of smallpox occurred towards the end of the year. All the measures prescribed by the Ministry of Health were immediately taken, and the epidemic was stamped out early in 1930.

The record of a great amount of successful sanitary work carried out in Bolton in 1929 is a tribute to the ability, energy, and loyalty of my staff in the Public Health Department.

I make special mention of Dr. McKeague, Deputy Medical Officer of Health, Dr. Boullen and Dr. Morison, Assistant Medical Officers of Health, Mr. Hurst, the Borough Analyst, Mr. Holmes, Veterinary Surgeon, and Mr. Herbert Daniels, Chief Clerk.

I am, Ladies and Gentlemen,

Your obedient Servant,

C. W. PAGET MOFFATT,

*Medical Officer of Health  
and School Medical Officer.*



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## COUNTY BOROUGH OF BOLTON.

### Public Health Committee.

THE MAYOR, COUNC. R. E. ROBERTS.

*Chairman*—ALD. T. HALSTEAD.

*Vice-Chairman*—COUNC. J. W. MAKANT, M.A.

Ald. SIR KNOWLES EDGE, J.P.	COUNC. MRS. E. HAILWOOD.
„ P. KNOTT.	„ W. A. HINDLEY.
„ Dr. E. MONKS, J.P.	„ J. KEARSLEY, J.P.
„ F. STEEL.	„ Dr. F. R. MALLET.
COUNC. J. W. ALLANSON.	„ Dr. R. D. MOTHERSOLE.
„ S. BELLIS.	„ T. PROFIT.
„ R. BIRCHBY.	„ B. ROBINSON.
„ MRS. A. E. DOWLING.	„ G. THOMPSON.
„ SIR T. E. FLITCROFT, J.P.	„ Mrs. H. WRIGHT.

### Public Health and Medical Inspection Staff.

<i>School Nurses</i> —	1. Miss R. BODDINGTON, 3 years' Cert.
	2. Miss J. ROBBINS, 3 years' Cert
	3. Miss D. WALMSLEY, Cert. Midwife and 3 years' Cert.
	4. Miss F. G. LEECH, Cert. Midwife and 3 years' Cert.
	5. Miss E. A. ASPINALL, Cert. Midwife and 3 years' Cert.
<i>Health Visitors</i> —	1. Miss S. A. RAMSDEN, Cert. Midwife, Cert. R. San. I.
	2. Miss A. MARSH, 3 years' Cert.
	3. Miss E. TANNER, 3 years' Cert.
	4. Miss A. STEEPLES, Cert. Midwife, and 3 years' Cert. (Mat. Hosp.)
	5. Mrs. E. BLACKBURN, 3 years' Cert.
	6. Miss E. H. V. GODFROY, Cert. Midwife, and 3 years' Cert.
	7. Miss H. M. BRERETON, Cert. Midwife, 3 years' Cert. and New Health Visitors' Cert.



**Public Health and Medical Inspection Staff—continued.**

*Artificial Sunlight Operator (part-time)*—MISS MARION CHARNOCK,  
C.S.M.M.G.

*Masseuse (part-time)*—MISS LOUIE BRUCKSHAW, C.S.M.M.G.

*Matron : Haslam Maternity Home*—MISS L. E. EVANS.

*Matron : Borough Fever Hospital*—MISS E. BATEMAN.

*Sanitary Inspectors*—1. E. OAKES, Cert. R. San. I.  
2. E. SUMNER, Cert. R. San. I. and Cert. for Food.  
3. T. ORMROD, Cert. R. San. I.  
4. C. J. DAWSON, Cert. R. San. I. and Cert. for Food.  
5. T. ISHERWOOD, Cert. R. San. I.  
6. C. COOP, Cert. R. San. I. and Cert. for Food.  
7. H. BARLOW, Cert. R. San. I.  
8. H. WHITAKER, Cert. R. San. I. and Cert. for Food.  
9. F. POTTER, Cert. R. San. I.

*Chief Clerk and Sanitary Inspector*—

HERBERT DANIELS, Cert. R. San. I.

*Veterinary and Chief Meat Inspector*—R. P. HOLMES, F.R.C.V.S.

*Public Analyst and Bacteriologist*—

HARRY HURST, B.Sc. Lond. and Sheff., F.I.C.

*Medical Officer for Maternity and Child Welfare (part-time)*—

MADGE E. JOHNSON, M.B., Ch.B. Vict.

*Assistant Medical Officers of Health and Assistant School Medical Officers*—

MARY E. BOULLEN, M.B., Ch.B., D.P.H. Vict.

ALEXANDER G. MORISON, M.A., M.B., Ch.B. Aberd., D.P.H. Lond.

ISABELLA SIM, M.B., Ch.B., D.P.H., St. And.

*Tuberculosis Officer and Deputy Medical Officer of Health*—

JOHN McKEAGUE, L.R.C.P., L.R.C.S. Edin., D.P.H. Dublin.

*Medical Officer of Health and School Medical Officer*—

C. W. PAGET MOFFATT, M.A. Lond., M.B., B.C., D.P.H. Cantab.,  
M.R.C.S. Eng., L.R.C.P. Lond.



SECTION I.

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Natural and Social Conditions.



# SUMMARY OF NATURAL FEATURES

—AND—

## VITAL AND MORTAL STATISTICS

1929.

### COUNTY BOROUGH OF BOLTON.

Position	... ..	Lat. 53° 35' N., Lon. 2° 27' W.
Elevation above sea level	... ..	230-ft. to 1450-ft.
Geological Formation: Boulder Clay and Sand over Coal Measures.		
Area in Acres (Land and Inland Water)	... ..	15,280
Population (Census 1921)	... ..	178,683
Population (Mid-yearly estimated population 1929)	... ..	181,500
Density	... ..	11·8
Inhabited Houses (Census 1921)	... ..	41,828
Private Families or Separate Occupiers (Census 1921)	... ..	42,635
New Houses Certified 1929	... ..	779
Estimated No. of Houses in the Borough at 31st December 1929	... ..	46,678
Rateable Value at 1st April, 1930	... ..	£973,325
Sum represented by a Penny Rate (1929-1930)	... ..	£4,297-1s.-4d.
Births	... ..	2,580
Birth-rate	... ..	14·2
Deaths	... ..	2,797
Death-rate (Crude)	... ..	15·4
Death-rate (Registrar General's)	... ..	15·2
Average Death-rate (1920-1929)	... ..	13·6
Infantile Mortality	... ..	103

*SUMMARY—Continued.*

Neo-natal Death-rate	...	...	...	...	...	38·3
Maternal Death-rate	...	...	...	...	...	8·52
Epidemic Death-rate (seven chief diseases)	...	...	...	...	...	·69
Diarrhœa & Enteritis (under 2 years), Death-rate per 1,000 Births	...	...	...	...	...	6·9
Phthisis Death-rate	...	...	...	...	...	·66
Other forms of Tuberculosis, Death-rate	...	...	...	...	...	·13
Respiratory Death-rate	...	...	...	...	...	2·9
Rainfall (Av. 1887-1929—44·114")	...	...	...	...	...	48·176"

107 COUNTY BOROUGHs AND GREAT TOWNS—

Birth-rate	...	...	...	...	...	16·6
Death-rate	...	...	...	...	...	13·7
Infantile Mortality	...	...	...	...	...	79
Diarrhœa and Enteritis (under 2 years), Death-rate per 1,000 Births	...	...	...	...	...	10·9

ENGLAND AND WALES—

Birth-rate	...	...	...	...	...	16·3
Death-rate	...	...	...	...	...	13·4
Infantile Mortality	...	...	...	...	...	74
Diarrhœa and Enteritis (under 2 years), Death-rate per 1,000 Births	...	...	...	...	...	8·1

## VITAL STATISTICS.

The Registrar General estimated the population of Bolton for 1929 to be 181,500, an increase of 300 on his estimate for 1928, which was 181,200.

The census of next year will tell us the correct population of Bolton and I shall be surprised if it is not a good deal above the estimate for the present year.

Bolton's deaths in 1929 numbered 2797, and it's births, 2580. There were therefore 217 more deaths than births, and the population suffered a *natural* decrease of 217. There was, however, an actual increase of 300. Bolton must, therefore, have received during 1929, immigrants to the number of 517.

## STATISTICS OF LIFE AND DEATH.

Judged by it's death-rates, 1929 was a very bad year for Bolton. Our death-rate was 12.7 in 1928. In 1929 it was 15.4. Our infantile mortality was 64 in 1928. In 1929 it was 103.

To what is this retrogression due? I am satisfied that it is entirely due to conditions over which we have no control, namely the severe weather in the first quarter of the year, and the prevalence of influenza at the same time.

We know nothing whatever as to the causes which give rise to epidemics of influenza and we are entirely helpless in the matter of the prevention of such epidemics. We have no control over the weather. We have as yet no weapons for dealing with the causes which brought about the death of so many of Bolton's inhabitants during the first three months of 1929.

The increase in infantile mortality from the very satisfactory figure of 64 in 1928 to 103 in 1929 is regrettable; it is certain, however, that the change for the worse in 1929 was not due to anything in the environment of the infants of Bolton over which the community has any control.

For purposes of comparison, the following table is interesting. It shows quite clearly that apart from the first quarter, 1929 did not, so far as deaths are concerned, differ materially from 1928.

## Death-Rates and Infantile Mortality in 1928-29.

	1928		1929	
	1st Qr.	2nd, 3rd, 4th Qrs.	1st Qr.	2nd, 3rd, 4th Qrs.
Death-rates ... ..	16.7	11.4	28.0	11.2
No. of Deaths under 1 ...	66	101	133	133
Infantile Mortality ... ..	94	53	198	69

In the table below the deaths in the first quarters of 1928 and 1929 are distributed in age groups. The table shows clearly how severely infants and elderly people suffered from the conditions prevailing during the first three months of 1929. There were 511 more deaths in the first quarter of 1929 than in the first quarter of 1928.

## DEATHS OCCURRING DURING THE FIRST QUARTERS OF 1928 AND 1929.

Year	AGE.																							All Ages
	0 to 1	1 to 2	2 to 3	3 to 4	4 to 5	5 to 10	10 to 15	15 to 20	20 to 25	25 to 30	30 to 35	35 to 40	40 to 45	45 to 50	50 to 55	55 to 60	60 to 65	65 to 70	70 to 75	75 to 80	80 to 85	85 & upwards		
1928...	65	19	13	5	5	7	8	10	15	9	17	16	23	36	52	67	65	90	98	88	37	16	761	
1929...	134	73	34	9	8	21	8	5	18	22	21	33	43	47	68	93	117	137	155	126	67	33	1272	

Influenza Deaths in 1928 and 1929 were as follows :—

	1928	1929
1st Quarter of year... ..	19	184
2nd, 3rd and 4th Quarters of year	36	24
Total	55	208

For comparison the table below gives the causes of death for all deaths which occurred during the first quarters of 1928 and 1929. It will be seen that the heavy death-rate for the first quarter of 1929 is mainly due to influenza, whooping cough, and pneumonia.



## Bolton.

## Causes of death, 1st Quarters of 1928 and 1929.

Causes of Death.	1st Quarter, 1928.	1st Quarter, 1929.
Enteric Fever ... ..	—	1
Smallpox ... ..	—	—
Measles ... ..	8	2
Scarlet Fever ... ..	—	1
Whooping Cough ... ..	1	76
Diphtheria ... ..	9	1
Influenza ... ..	19	184
Encephalitis Lethargica ... ..	5	3
Meningococcal meningitis ... ..	2	—
Tuberculosis of the respiratory system	33	50
Other Tuberculous diseases ... ..	4	4
Cancer, malignant disease ... ..	69	59
Rheumatic fever ... ..	7	7
Diabetes ... ..	7	14
Cerebral hæmorrhage, etc. ... ..	37	37
Heart Disease ... ..	103	155
Arterio-sclerosis ... ..	69	92
Bronchitis ... ..	106	154
Pneumonia (all forms) ... ..	62	161
Other respiratory diseases ... ..	12	12
Ulcer of stomach or duodenum ... ..	3	3
Diarrhœa ... ..	6	5
Appendicitis and typhlitis ... ..	5	2
Cirrhosis of liver ... ..	2	1
Acute and chronic nephritis ... ..	22	40
Puerperal sepsis ... ..	1	3
Other accidents and diseases of pregnancy and parturition ... ..	3	3
Congenital debility and malformation, premature birth ... ..	23	33
Suicide ... ..	2	8
Other deaths from violence ... ..	23	24
Other defined diseases ... ..	117	135
Causes ill-defined or unknown ... ..	1	2
Total—All Causes ... ..	<u>761</u>	<u>1272</u>

### Neo-Natal Death-Rate

The Neo-natal death-rate is the death-rate of infants during the first four weeks of life. It results largely from causes at work before the birth of the child.

#### Causes of Deaths under Four Weeks, 1929

CAUSES OF DEATH.	Under 7 days	7 and under 14 days	14 and under 21 days	21 and under 28 days	Total under 28 days
Icterus Neonatorum ... ..	—	—	—	—	—
Convulsions ... ..	2	2	1	1	6
Bronchitis ... ..	—	—	1	1	2
Pneumonia (all forms) ... ..	2	1	1	2	6
Diarrhœa ... ..	—	—	—	—	—
Enteritis ... ..	—	—	1	—	1
Syphilis ... ..	1	—	—	—	1
Suffocation ... ..	—	—	—	—	—
Injury at Birth ... ..	5	—	—	—	5
Atelectasis ... ..	6	1	—	—	7
Congenital Malformations ... ..	5	1	—	1	7
Premature Birth ... ..	38	3	4	—	45
Atrophy, Debility and Marasmus ... ..	8	—	—	1	9
Other Causes ... ..	5	3	2	—	10
Totals ... ..	72	11	10	6	99

The following table shows the causes to which were attributed all infant deaths which occurred in Bolton in 1928 and 1929.

The causes of infant deaths in 1928 and 1929 are as follows :

	1928	1929
Measles ... ..	6	—
Whooping Cough ... ..	3	28
Erysipelas ... ..	—	—
Tuberculous Meningitis ... ..	3	1
Meningitis (not tuberculous) ... ..	4	3
Convulsions ... ..	10	17
Bronchitis ... ..	8	18
Pneumonia (all forms) ... ..	22	62
Diarrhoea ... ..	1	4
Enteritis ... ..	14	12
Gastritis ... ..	—	2
Syphilis ... ..	2	4
Rickets ... ..	2	1
Suffocation ... ..	1	—
Injury at Birth ... ..	3	5
Atelectasis ... ..	2	7
Congenital Malformations ... ..	11	11
Premature Births ... ..	36	49
Atrophy, Debility and Marasmus ... ..	18	19
Icterus Neonatorum ... ..	—	—
Other Causes ... ..	21	23
	<hr/> 167	<hr/> 266

The infantile mortality rate amongst the legitimate children was 100, and amongst the illegitimate 182.

In the following table is given the average infantile mortality for five year periods from 1876 to 1920 and for each year from 1921 to 1929.

Quinquennium.	Average rate.	Year.	Rate.
1876-1880	... 171	1921	... 96
1881-1885	... 169	1922	... 93
1886-1890	... 173	1923	... 85
1891-1895	... 185	1924	... 92
1896-1900	... 173	1925	... 87
1901-1905	... 157	1926	... 101
1906-1910	... 134	1927	... 75
1911-1915	... 128	1928	... 64
1916-1920	... 100	1929	... 103

#### Maternal Deaths.

The maternal mortality is the number of maternal deaths per thousand live births.

These maternal deaths include not only deaths taking place "in or in consequence of child-birth," but also deaths occurring at any period of pregnancy, if such deaths are attributable to pregnancy.

For maternal deaths Bolton's record for 1929 is bad. It is much above any figure recorded for Bolton during the past ten years.

There were 22 maternal deaths, 17 taking place "in or in consequence of childbirth," and five being due to accidents of the earlier months of pregnancy. During 1929 there were 2580 live births. Bolton's maternal death-rate for 1929 is therefore 8.5.

To what is our increase in maternal deaths due? I am confident that the care and attention which women received in Bolton at the time of childbirth was certainly not less in 1929 than that available in 1928. We may reasonably suppose it was greater as our ante-natal clinics were much better attended.

The maternal mortality rate moved in sympathy with the general death-rate and must have been influenced by the same causes.

The following table shows the maternal mortality during 1929 in the boroughs of Lancashire.

The following table shows very clearly that the adverse conditions as regards life which prevailed in Bolton in 1929 were felt just as severely in other towns of Lancashire.

**Maternal Mortality in Boroughs of Lancashire in 1929.**

Barrow-in-Furness	...	2.6	Burnley	...	...	5.0
Bootle	..	...	St. Helens	...	...	5.8
Liverpool	...	...	Preston	...	...	6.1
Warrington	...	...	Bury	...	...	7.0
Salford	...	...	<b>Bolton</b>	...	...	<b>8.5</b>
Manchester	...	...	Wigan	...	...	8.5
Southport	...	...	Rochdale	...	...	9.2
Blackpool	...	...				

Maternal mortality is dealt with more fully in the Maternity and Child Welfare section of this report.

**Infantile Mortality.**

The infantile mortality rate is the number of children under twelve months of age who die per thousand live births.

This figure is not affected by an error in the estimation of the population and it can be determined with absolute accuracy for all areas.

The Bolton figure for 1929 is disappointingly high. As already mentioned this is due to causes for which the community is not responsible and for which it knows no cure.

The infantile mortality rate for 1929 is 103. In 1928 it was 64.

**Birth-rate, Death-rate and Infantile Mortality in chief  
Lancashire manufacturing towns.**

(Figures taken from the Summaries of the Registrar-General).  
1928 and 1929.

	Birth-rate.		Death-rate.		Infantile Mortality.	
	1928	1929	1928	1929	1928	1929
England and Wales ... ..	16·7	16·3	11·7	13·4	65	74
107 County Boroughs & Great Towns, including London ...	16·9	16·6	11·6	13·7	70	79
Bootle ... ..	20·5	20·3	10·4	11·7	87	64
Barrow-in-Furness ... ..	16·3	17·3	10·8	12·3	61	80
Preston ... ..	15·1	15·5	12·4	13·6	86	97
St. Helens... ..	21·3	20·4	11·4	14·1	97	110
Warrington ... ..	19·7	19·3	11·1	14·2	64	101
Salford ... ..	16·8	16·4	12·3	14·3	96	114
Burnley ... ..	15·1	13·9	13·1	14·6	79	103
Blackburn ... ..	13·9	12·4	12·0	14·7	78	84
Wigan ... ..	18·6	17·6	12·1	14·7	92	126
Liverpool ... ..	21·9	21·6	12·8	14·8	92	95
<b>Bolton ... ..</b>	<b>14·7</b>	<b>14·4</b>	<b>12·7</b>	<b>15·2</b>	<b>64</b>	<b>101</b>
Bury ... ..	13·1	13·6	13·2	15·3	89	73
Manchester ... ..	17·2	17·3	12·9	15·3	90	96
Rochdale ... ..	13·7	14·3	14·0	16·8	78	74
Oldham ... ..	14·5	13·2	14·0	18·1	83	114

In 1929, of the above 15 towns, Bolton has the sixth lowest birth-rate, the fifth highest death-rate, and the sixth highest infantile mortality-rate.

ENGLAND AND WALES.

	1928	1929
Death-rate ... ..	11·7	13·4
Infantile Mortality ... ..	65	74

107 COUNTY BOROUGHES AND GREAT TOWNS, INCLUDING LONDON.

	1928	1929
Death-rate ... ..	11·6	13·7
Infantile Mortality ... ..	70	79

## DEATHS FROM INFECTIOUS DISEASES.

The seven principal epidemic diseases are:—Smallpox, Scarlet Fever, Diphtheria, Enteric Fever, Measles, Whooping Cough, and Epidemic Diarrhœa (under two years of age). These diseases caused 127 deaths in Bolton in 1929. This is a death-rate of '69 per thousand inhabitants, and this death-rate is known as the zymotic death-rate. Bolton's death-rate from the above diseases for the years 1920-29 is as follows:—

1920	...	'79	1925	...	'55
1921	...	'62	1926	...	'65
1922	...	'65	1927	...	'31
1923	...	'40	1928	...	'33
1924	...	'47	1929	...	'69

From the following table it will be seen that the increase in the zymotic death-rate for 1929 as compared with that of 1928 is entirely due to the excessive mortality caused in 1929 by whooping cough. Whooping cough is unfortunately a disease for which no effective treatment has yet been discovered.

The deaths attributed in Bolton to the various epidemic diseases are shown in the following table for the years 1922 to 1929.

## CAUSES OF DEATH FROM EPIDEMIC DISEASES.

	1922	1923	1924	1925	1926	1927	1928	1929
Smallpox ... ..	—	—	—	—	—	—	—	—
Scarlet Fever ... ..	4	6	1	3	1	—	1	4
Diphtheria and Memb. Croup ...	13	10	6	3	14	10	16	8
Enteric and Continued Fever ...	2	—	6	1	1	4	1	1
Measles ... ..	63	4	12	18	16	21	17	11
Whooping Cough ... ..	13	11	28	32	37	1	9	85
Diarrhœa and Enteritis under 2 years of age ... ..	24	42	33	44	47	20	17	18
Erysipelas ... ..	6	4	5	9	6	11	9	5
Puerperal Sepsis ... ..	3	3	6	8	5	4	3	6
Cerebro-spinal Fever ... ..	—	—	2	1	2	3	4	—
Encephalitis Lethargica ... ..	1	—	17	13	14	10	11	5
Influenza ... ..	122	94	88	98	68	147	55	208

## Deaths from Tuberculosis.

The death-rate for tuberculosis of all forms for 1928 was '77 per thousand inhabitants. This was the lowest tuberculosis death-rate ever recorded in Bolton. The corresponding figure for 1929 is '79, a figure which does not differ appreciably from that of 1928 and may be regarded as very satisfactory.

The total number of deaths attributed to tuberculosis in 1929 was 145. Of these, pulmonary tuberculosis was responsible for 121 and non-pulmonary tuberculosis for 24.

Tuberculosis is quite definitely being defeated and has ceased to be the terrible scourge it was not very long ago.

DEATHS AND DEATH-RATES FROM TUBERCULOSIS IN BOLTON  
IN PREVIOUS YEARS.

Year.	Pulmonary Tuberculosis.		Non-pulmonary Tuberculosis.		Tuberculosis (all forms).	
	Deaths	Death-rate	Deaths	Death-rate	Deaths	Death-rate
1914	167	'90	54	'29	221	1'19
1915	179	1'03	50	'28	229	1'32
1916	181	1'07	62	'36	243	1'43
1917	189	1'15	62	'37	251	1'53
1918	198	1'23	55	'34	253	1'57
1919	173	'97	37	'20	210	1'18
1920	154	'83	32	'17	186	1'00
1921	161	'88	37	'20	198	1'08
1922	138	'75	40	'21	178	'97
1923	157	'86	47	'25	204	1'11
1924	162	'89	42	'23	204	1'12
1925	151	'83	34	'18	185	1'02
1926	135	'76	29	'16	164	'92
1927	149	'83	33	'18	182	1'02
1928	120	'66	20	'11	140	'77
1929	121	'66	24	'13	145	'79



## Deaths from Cancer.

In the case of 204 Bolton residents who died in 1929, cancer was given as the cause of death.

The following table shows the number of deaths from cancer, the cancer death-rate, and for purposes of comparison, the pulmonary tuberculosis death-rate in Bolton for the years 1901 to 1929.

Deaths from Cancer in Bolton in the years 1901-1929.

Year.	No. of deaths.			Total.	Cancer Death-rate.	Pulmonary Tuberculosis Death-rate.
	Males.	Females.				
1901	26	71	...	97	·57	1·69
1902	51	73	...	124	·73	1·49
1903	32	72	...	104	·60	1·27
1904	45	88	...	133	·77	1·28
1905	57	76	...	133	·76	1·20
1906	40	74	...	114	·65	1·15
1907	45	75	...	120	·68	1·05
1908	53	69	...	122	·68	1·21
1909	60	84	...	144	·80	1·20
1910	58	92	...	150	·83	1·08
1911	67	84	...	151	·83	1·03
1912	80	88	...	168	·92	·99
1913	72	110	...	182	·98	·83
1914	77	96	...	173	·93	·90
1915	78	103	...	181	1·04	1·03
1916	60	100	...	160	·94	1·07
1917	73	93	...	166	1·01	1·15
1918	85	102	...	187	1·16	1·23
1919	72	104	...	176	·99	·97
1920	96	107	...	203	1·10	·83
1921	86	128	...	214	1·17	·88
1922	88	104	...	192	1·05	·75
1923	101	113	...	214	1·17	·86
1924	123	121	...	244	1·34	·98
1925	108	132	...	240	1·33	·82
1926	109	127	...	236	1·33	·76
1927	116	116	...	232	1·30	·83
1928	119	126	...	245	1·35	·66
1929	113	91	...	204	1·12	·66

The above death-rates are crude death-rates. This means that they are not corrected for the changes in the age and sex distribution of the population.

It is perfectly certain that at the present time that portion of the population of Bolton which is over 45 years of age is a very much larger fraction of the whole population than was the case in 1901. For that reason we should expect, assuming the population of 1901 and 1929 to be of equal magnitude, more deaths from cancer in 1929, although the danger for any individual member of the community of contracting cancer might be no greater than in 1901, and might easily be much less.

The older the population, the more cancer ; but this does not mean increased risk of cancer for the individual.

Crude death-rates for cancer and the actual number of cancer deaths taking place in any population are entirely useless for purposes of comparison between different areas and between different years in the same area. They are extremely misleading and no attention should be paid to them. This has been pointed out by the Registrar-General.

It used to be considered that women suffered much more heavily from cancer than men. If this was ever true it has quite definitely now ceased to be so. Since 1923 the standardized cancer death-rate for males has shown an excess over that for females. The crude rate for females is still higher than that for males, because the average age of the female population is higher than that of the male population.

Does this increase in cancer in the male as compared with cancer in the female indicate a real increase in the amount of cancer in males ? It is impossible to answer this question at present. It is certain, however, that most of the increase is apparent and is due to increased accuracy of diagnosis. The commonest sites of cancer in the female are more accessible than the regions usually attacked by cancer in the male ; cancer in the female is therefore more easily diagnosed than cancer in the male. All the evidence available justifies us in saying that most of the increase in the male is apparent and not real.

Is cancer for the population as a whole increasing ? Is for each individual member of the community the danger of being attacked by cancer becoming greater ?

This question cannot yet be answered definitely ; but the last few years give us reason to hope that cancer tide has reached its high-water mark. For the years 1925 to 1927 the standardized death-rates from cancer for England and Wales per million persons living were as follows :

1925	...	1002
1926	...	999
1927	...	996

The figure for 1928 is not yet to hand.

The following table shows the age and sex distribution of all persons who were certified as having died of cancer in Bolton in 1929. The table shows also the localization of the disease.

### DEATHS FROM CANCER, 1929.

Age and Sex Distribution, and Localization of Disease.

Lesion	Sex		AGE																		
			0 to 5	5 to 10	10 to 15	15 to 20	20 to 25	25 to 30	30 to 35	35 to 40	40 to 45	45 to 50	50 to 55	55 to 60	60 to 65	65 to 70	70 to 75	75 to 80	80 to 85	85 and upwards	
	M.	F.																			
Oral Cavity	2	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1	1	...	...	...	
Lower Jaw ...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	
Axilla ...	...	1	...	...	...	...	...	...	...	...	...	...	...	1	...	...	...	...	...	...	
Mouth ...	2	...	...	...	...	...	...	...	...	...	...	...	1	...	...	1	...	...	...	...	
Tongue ...	6	...	...	...	...	...	...	...	...	...	...	...	1	...	3	2	...	...	...	...	
...	...	1	...	...	...	...	...	...	...	...	...	...	1	...	...	...	...	...	...	...	
Anal ...	1	...	...	...	...	...	...	...	...	...	...	...	...	...	1	...	...	...	...	...	
Total Buccal Cavity	11	...	...	...	...	...	...	...	...	...	...	...	2	...	4	4	1	...	...	...	
...	...	2	...	...	...	...	...	...	...	...	...	...	1	1	...	...	...	...	...	...	
Th. Liver, etc.,	2	...	...	...	...	...	...	...	...	...	...	1	...	...	...	1	...	...	...	...	
Stomachs ...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	
Bladder ...	...	4	...	...	...	...	...	...	...	...	...	1	1	1	1	...	...	...	...	...	
Uter ...	4	...	...	...	...	...	...	...	...	...	...	...	...	2	...	1	1	...	...	...	
...	...	8	...	...	...	...	...	1	...	...	...	...	1	4	...	2	...	...	...	...	
Esophagus ..	9	...	...	...	...	...	...	...	...	...	...	...	...	2	4	1	...	...	...	2	
...	...	1	...	...	...	...	...	...	...	...	...	...	...	...	1	...	...	...	...	...	
Larynx ...	2	...	...	...	...	...	...	...	...	...	...	...	1	...	1	...	...	...	...	...	
Trachea ...	3	...	...	...	...	...	...	...	...	...	...	1	...	...	2	...	...	...	...	...	
...	...	2	...	...	...	...	...	...	...	...	...	...	...	...	1	1	...	...	...	...	
Stomach ...	34	...	...	...	...	...	...	1	1	3	2	3	5	5	7	5	2	...	...	...	
...	...	11	...	...	...	...	...	...	...	1	...	...	1	2	1	3	2	1	...	...	
Stomach, Liver, etc.	54	...	...	...	...	...	...	1	1	3	4	4	9	12	10	6	2	...	2	...	
...	...	26	...	...	...	...	...	1	...	1	1	2	6	5	4	3	2	1	...	...	
Stomach, Intestines, and Rectum	1	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1	...	...	...	
...	...	2	...	...	...	...	...	...	...	...	...	...	...	...	2	...	...	...	...	...	
Colon ...	10	...	...	...	...	...	...	...	1	...	...	...	1	...	3	3	1	1	...	...	
...	...	8	...	...	...	...	...	...	...	...	...	...	...	...	1	1	2	2	2	...	
Intestines ...	3	...	...	...	...	...	...	...	...	...	...	1	...	1	...	...	1	...	...	...	
...	...	1	...	...	...	...	...	...	...	...	...	...	...	...	1	...	...	...	...	...	
Vagina ...	...	1	...	...	...	...	...	...	1	...	...	...	...	...	...	...	...	...	...	...	
Penis ...	9	...	...	...	...	...	...	...	...	...	...	1	...	2	2	2	2	...	...	...	
Rectum ...	...	4	...	...	...	...	...	...	...	...	...	...	...	...	2	2	...	...	...	...	
Abdominal Peritoneum, Intestines and Rectum	23	...	...	...	...	...	...	...	1	...	2	1	3	5	5	4	2	...	...	...	
...	...	16	...	...	...	...	...	...	1	...	...	...	...	...	6	3	2	2	2	...	

## DEATHS FROM CANCER, 1929—Cont.

Lesion	Sex		AGE																			
			0 to 5	5 to 10	10 to 15	15 to 20	20 to 25	25 to 30	30 to 35	35 to 40	40 to 45	45 to 50	50 to 55	55 to 60	60 to 65	65 to 70	70 to 75	75 to 80	80 to 85	85 to 90	90 to 95	95 to 100
	M.	F.																				
Female Genital Organs																						
Ovary ... ..	...	2	...	...	...	1	...	...	...	...	...	...	...	...	1	...	...	...	...	...	...	...
Uterus ... ..	...	16	...	...	...	...	...	...	...	2	1	1	5	2	4	...	1	...	...	...	...	...
Total Female Genital Organs...	...	18	...	...	...	1	...	...	...	2	1	1	5	2	5	...	1	...	...	...	...	...
Breast ... ..	...	20	...	...	...	...	...	...	...	...	2	...	2	5	3	1	5	2	...	...	...	...
Skin	...	2	...	...	...	...	...	...	...	...	...	...	...	...	1	1	...	...	...	...	...	...
	...	1	...	...	...	...	...	...	...	...	...	...	...	...	...	1	...	...	...	...	...	...
Other Organs																						
Abdomen ... ..	...	1	...	...	...	...	...	...	1	...	...	...	...	...	...	...	...	...	...	...	...	...
Bladder ... ..	...	5	...	...	...	...	...	...	...	...	...	...	1	1	1	...	2	...	...	...	...	...
Groin ... ..	...	1	...	...	...	...	...	...	...	...	...	...	...	...	...	1	...	...	...	...	...	...
Hip ... ..	...	1	...	...	...	...	...	...	...	...	...	...	...	1	...	...	...	...	...	...	...	...
Kidney ... ..	...	1	...	...	...	...	...	...	...	...	...	...	1	...	...	...	...	...	...	...	...	...
Larynx ... ..	...	3	...	...	...	...	...	...	...	...	...	...	...	1	...	2	...	...	...	...	...	...
Lung ... ..	...	1	...	...	...	...	...	...	...	...	...	...	1	...	...	...	...	...	...	...	...	...
	...	2	...	...	...	...	...	...	...	1	...	...	...	1	...	...	...	...	...	...	...	...
Mediastinum ... ..	...	1	...	...	...	...	...	...	...	...	...	...	...	1	...	...	...	...	...	...	...	...
	...	1	...	...	1	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Orbit ... ..	...	1	...	...	...	...	...	...	...	...	1	...	...	...	...	...	...	...	...	...	...	...
Pancreas ... ..	...	2	...	...	...	...	...	...	...	...	...	1	...	1	...	...	...	...	...	...	...	...
	...	1	...	...	...	...	...	...	...	...	...	...	1	...	...	...	...	...	...	...	...	...
Prostate ... ..	...	6	...	...	...	...	...	...	...	...	...	1	...	1	1	1	...	2	...	...	...	...
Spine ... ..	...	1	...	...	...	...	...	...	1	...	...	...	...	...	...	...	...	...	...	...	...	...
Throat ... ..	...	2	...	...	...	...	...	...	...	...	...	...	...	1	...	1	...	...	...	...	...	...
Unstated ... ..	...	1	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1	...
	...	23	...	...	...	...	...	...	...	...	1	2	3	6	2	5	2	2	...	...	...	...
Total Other Organs ...	...	8	...	...	1	...	...	...	2	1	...	...	1	2	...	...	...	1	...	...	...	...
Total Males ... ..	113	...	...	...	...	...	...	...	1	2	4	8	10	18	24	25	13	6	...	...	...	...
Total Females ... ..	...	91	...	...	1	1	...	...	3	4	4	2	11	16	19	9	11	7	...	...	...	...
TOTAL both sexes ...	204	...	...	1	1	...	...	...	4	6	8	10	21	34	43	34	24	13	...	...	...	...

## SUMMARY OF THE PRINCIPAL CAUSES OF DEATH, 1929.

						No. of Deaths.	Per cent. of Total Deaths.
GENERAL DISEASES.							
Measles...	...	...	...	...	...	11	·39
Whooping Cough	...	...	...	...	...	85	3·03
Diphtheria	...	...	...	...	...	8	·28
Influenza	...	...	...	...	...	208	7·43
Pulmonary Tuberculosis	...	...	...	...	...	121	4·32
Other Forms of Tuberculosis	...	...	...	...	...	24	·85
Cancer ...	...	...	...	...	...	204	7·29
Rheumatic Fever	...	...	...	...	...	22	·78
Chronic Rheumatism, Osteo-arthritis, Gout	...	...	...	...	...	11	·39
Diabetes	...	...	...	...	...	41	1·46
Anæmia, Chlorosis	...	...	...	...	...	13	·46
Other General Diseases	...	...	...	...	...	49	1·75
NERVOUS SYSTEM.							
Meningitis	...	...	...	...	...	8	·28
Cerebral Hæmorrhage, Apoplexy, etc.	...	...	...	...	...	110	3·93
Paralysis of unstated origin	...	...	...	...	...	8	·28
General Paralysis of the Insane	...	...	...	...	...	6	·21
Other Forms of Insanity	...	...	...	...	...	10	·35
Epilepsy	...	...	...	...	...	8	·28
Infantile Convulsions	...	...	...	...	...	19	·67
Other Diseases of the Nervous System	...	...	...	...	...	40	1·43
CIRCULATORY SYSTEM.							
Heart Diseases	...	...	...	...	...	410	14·65
Diseases of the Arteries	...	...	...	...	...	212	7·57
Other Circulatory	...	...	...	...	...	6	·21
RESPIRATORY SYSTEM.							
Bronchitis	...	...	...	...	...	244	8·72
Pneumonia (all forms)	...	...	...	...	...	263	9·40
Asthma	...	...	...	...	...	10	·35
Other Respiratory	...	...	...	...	...	15	·53

# DIGESTIVE SYSTEM.

Ulcer of the Stomach or Duodenum	...	19	'67
Diarrhœa and Enteritis	... ..	31	1'10
Appendicitis and Typhlitis	... ..	13	'46
Hernia, Intestinal Obstruction	... ..	21	'75
Cirrhosis of the Liver...	... ..	12	'42
Other Digestive	... ..	33	1'17

# GENITO-URINARY SYSTEM.

Acute Nephritis	... ..	19	'67
Chronic Nephritis	... ..	90	3'21
Diseases of the Prostate	... ..	15	'53
Other Genito-urinary...	... ..	16	'57
The Puerperal State	... ..	22	'78

MALFORMATIONS	... ..	15	'53
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# DISEASES OF EARLY INFANCY.

Atrophy, Debility, etc.	... ..	19	'67
Premature Birth and Injury at Birth	... ..	54	1'93
Other Diseases of Early Infancy	... ..	11	'39

OLD AGE	... ..	119	4'25
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EXTERNAL CAUSES...	... ..	102	3'64
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MISCELLANEOUS CAUSES	... ..	20	'71
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## SECTION II.

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1. General Provision of Health Services.
2. Local Acts, General Adoptive Acts, Bye-laws & Regulations.





## GENERAL PROVISION OF HEALTH SERVICES IN BOLTON.

There was practically no change in the Health Services provided in Bolton in 1929.

In compliance with the request of the Ministry of Health the following brief account of these services is appended.

### 1.—FEVER.

The Bolton Borough Isolation Hospital is situated at Deane, a part of the area of the County Borough of Bolton. It consists of 4 separate pavilions and 2 administrative buildings. The pavilions contain 100 beds for the treatment of infectious diseases.

### 2.—SMALLPOX.

Arrangements have been made to isolate smallpox cases at our Isolation Hospital in Hulton Lane and our agreement with Salford Corporation has been terminated.

### 3.—TUBERCULOSIS.

A pavilion for the reception of patients suffering from pulmonary tuberculosis has been erected in the grounds of the Borough Isolation Hospital at Deane. It contains 24 beds: 12 for males and 12 for females. The Borough Isolation Hospital is situate within the area of the County Borough of Bolton. The phthisis pavilion was opened for the reception of patients on the 8th of July, 1914.

### 4.—MATERNITY.

The Haslam Maternity Home, owned and administered by the Local Authority, is located in a very fine building, presented to the town by the late Mr. J. P. Haslam. The Home has 18 beds. The situation of the Home is extremely pleasant, and it stands in extensive grounds of its own. It was opened on the first of December, 1920.

### 5.—CHILDREN.

There are no hospitals in Bolton specially set apart for children.

### OTHER HOSPITALS.

The Bolton Infirmary, the only voluntary general hospital for Bolton and a very populous surrounding district, receives an annual donation of £500 from the Bolton Corporation, but it cannot be said to be a hospital subsidized by the Bolton Corporation.

### AMBULANCE FACILITIES.

(a). Two motor ambulances are kept at the Borough Isolation Hospital and are available for all infectious cases.

(b). For non-infectious and accident cases, the County Borough of Bolton has provided three ambulances. These ambulances are available for the moving, within the area of the County Borough of Bolton, of all cases of sickness and accident for the moving of which an ambulance is necessary. A small charge is made if the circumstances of those requiring the use of the ambulance justify such charge.

### CLINICS AND TREATMENT CENTRES.

Full particulars of Maternity and Child Welfare Centres, of our Day Nursery, of our Tuberculosis Dispensary, and Treatment Centre for Venereal Diseases will be found in the sections of this report which deal severally with these subjects.

The School Clinic is conducted in a building which was formerly the Thomasson Library. The building is situate in Charles Street and has very suitable accommodation for the work of the clinic. The School Clinic is open as follows :

Monday to Friday, 9 a.m. to 12 noon.

2 p.m. to 4-30 p.m.

Saturday - 9 a.m. to 12 noon.

One of the School Doctors is in attendance at the clinic on Monday and Wednesday afternoons, and on Thursday and Saturday mornings. Treatment is carried out every day both in the morning and afternoon.

### PROFESSIONAL NURSING IN THE HOME.

The Bolton Public Health Authority has an arrangement with the Bolton District Nursing Association for the home nursing of certain specified diseases. These diseases are : puerperal pyrexia and puerperal fever, measles, whooping cough, epidemic diarrhoea, and ophthalmia neonatorum. For each visit paid to such cases a fee of 1/6 is paid,

The Bolton District Nursing Association provides nursing in the home for all cases other than those of infectious disease. In the great majority of cases the nursing is given gratuitously, but in cases where the patient's friends are able to pay a small fee is asked.

#### MIDWIVES.

No midwives are employed, nor are any subsidized by the Local Authority.

The number of midwives who notified their intention of practising in Bolton in 1929 was 76.

#### CHEMICAL WORK.

The Local Authority employs a whole-time Chemist and Bacteriologist and has its own laboratory. A full account of his work in 1929 will be found in this report.

### **2. Legislation in Force.**

#### **Local Acts, General Adoptive Acts, Bye-laws and Regulations in Force in Bolton.**

##### **LOCAL ACTS.**

Bolton Improvement Act, 1854.

Bolton Improvement Act, 1865.

Bolton Corporation Act, 1872.

Bolton Improvement Act, 1877.

Local Government Board's Provisional Orders Confirmation  
(Abergavenny Union, &c.) Act, 1879.

Bolton Improvement Act, 1882.

Local Government Board's Provisional Orders Confirmation  
(No. 15) Act, 1893.

Bolton Tramways and Improvement Act, 1897.

Bolton Corporation Act, 1901.

Bolton Corporation Act, 1905.

Bolton Corporation Act, 1922.

Bolton Corporation Act, 1925.

GENERAL ADOPTIVE ACTS.

Part III.—Public Health Acts Amendment Act, 1890.  
(Adopted—6th May, 1891).

Part IV.—Public Health Acts Amendment Act, 1890.  
(Adopted—6th July, 1910).

BYE-LAWS AND REGULATIONS.	DATE MADE.
Slaughter-houses ... ..	13th Feb., 1867.
Common Lodging-houses ... ..	2nd Feb., 1898.
Houses Let-in-Lodgings ... ..	2nd Feb., 1898.
Dairies, Cowsheds and Milkshops ...	5th July, 1899.
Management, etc., of High Street Baths	4th Feb., 1903.
Means of Escape in Case of Fire ...	10th Sept., 1908.
Tents, Vans, Sheds and Similar Structures	21st Jan., 1926.

SECTION III.



Sanitary Circumstances.



### Water.

The Bolton Corporation Waterworks Department continues to do everything possible to remove from the gathering grounds of its reservoirs all possible sources of contamination.

Some people are inclined to resent the restrictions placed on access to the gathering grounds by measures which are absolutely necessary if Bolton is to enjoy a pure water supply. I am satisfied that these restrictions could only be dispensed with at very great risk to the health of the Town.

### Closet Accommodation.

The following table shows how Bolton stood as regards closet accommodation at the close of 1920 compared with the state of affairs at the close of 1929.

	Dec. 31st, 1920.		Dec. 31st, 1929.	
Fresh-water closets ...	11,062	...	30,198	...
Waste-water closets ...	15,219	...	15,053	...
Pail closets ...	6,302	...	1,708	...
Privy Middens ...	10,540	...	1,226	...

It will be seen from this table that between December 1920 and December 1929 the number of pail closets and privy middens was reduced from 16,842 to 2,934, a reduction of nearly 14,000.

During the same period fresh-water closets increased from 11,062 to 30,198 a net increase of 19,136.

At the close of 1928 fresh-water closets in Bolton numbered 27,672. The number at the close of 1929 was 30,198, a net increase of 2,526.

The total number of pail closets and privy middens at the close of 1928 was 4,656.

By the close of 1929 the number was 2,934, a reduction of 1,722.

I submit that these figures are the record of a very satisfactory year's work in the once almost appalling task of getting rid of pail closets and privy middens in Bolton.

By the end of 1931 it should be possible to have got rid of all pail closets and privy middens except in those cases where special circumstances, such as the absence of a sewer, etc., render this quite impossible.

In the following table is set forth the nature of the closet accommodation in the various wards of the Borough.

# CLOSET ACCOMMODATION, 1929.

	No. of Closets Converted or Demolished, 1929.				F.W.Cs. provided in lieu of any other type and additions in new and old houses, 1929.		Present Closet Accommodation, 1929.			Per Cent. on	
	P.M.	Pail.	W.W.C.	F.W.C.	F.W.C.	P.M.	Pail.	W.W.C.	F.W.C.	Dry System.	Water System.
Old Borough...	195	1107	9	7	1571	403	1678	10847	17442	6'9	93'1
Great Lever ...	213	1	...	...	345	155	...	1104	2467	4'2	95'8
Tonge ...	17	...	...	...	138	35	...	766	2874	1'0	99'0
Astley Bridge ...	2	...	...	...	50	55	12	499	1716	2'9	97'1
Smithills ...	36	1	2	...	185	43	3	705	1876	1'8	98'2
Hulton ...	67	...	...	...	100	37	...	590	1038	2'2	97'8
Darcy Lever-cum- Brightmet ...	17	5	...	2	24	312	...	181	948	21'7	78'3
Deane-cum-Lostock ...	67	...	...	...	87	102	3	212	874	8'8	91'2
Heaton ...	—	...	...	...	35	84	12	149	963	7'9	92'1
Extended Borough ...	614	1114	11	9	2535	1226	1708	15053	30198	6'1	93'9



### Scavenging

The town's refuse, other than sewage, is disposed of in three ways part is sold as manure, part is incinerated, and part is deposited on tips.

The contents of privy middens and of pail closets is sold as manure.

The remaining refuse is disposed of as follows:

60 per cent. is incinerated by the Corporation's destructors.

15 per cent. is disposed of as manure.

25 per cent. is placed on tips or disposed of to local farmers.

The removal of the town's refuse is carried out in an efficient manner under the supervision of the Cleansing Committee.

Ashbins are emptied weekly.

Ashpits are emptied weekly to once in 3 weeks.

Pail Closets are emptied at least once a week.

Privy Middens are emptied every 3 to 6 weeks.

### SANITARY INSPECTION.

The nature, and to a great extent, the amount of ground covered by the Sanitary Inspectors is shown by the following detailed statement of work done:—

#### GENERAL INSPECTIONS.

Houses	...	...	...	...	...	...	18765
Newly-infected houses	...	...	...	...	...	...	985
Schools	...	...	...	...	...	...	25
Common lodging-houses	...	...	...	...	...	...	844
Houses-let-in-lodgings	...	...	...	...	...	...	824
Factories	...	...	...	...	...	...	236
Workshops	...	...	...	...	...	...	290
Workplaces	...	...	...	...	...	...	285
Bakehouses	...	...	...	...	...	...	439
Offensive trades	...	...	...	...	...	...	45
Dairies, Cowsheds, and Milk-shops...	...	...	...	...	...	...	601
Conversion of Closets	...	...	...	...	...	...	7110
Drains...	...	...	...	...	...	...	2108
Miscellaneous...	...	...	...	...	...	...	7960

#### NUISANCES FOUND.

Houses, workshops, cowsheds, etc., needing limewashing	1294
Houses overcrowded	15
House roofs, walls, floors, etc., in bad repair	1447
Insan. or insufficient closet accommodation	1818

Ashpits or pails in bad repair	...	...	...	...	178
Defective or choked drains	...	...	...	...	405
Yards in bad repair	...	...	...	...	133
Animals kept as a nuisance	...	...	...	...	15
Miscellaneous	...	...	...	...	1704

#### ACTION TAKEN.

Letters written	...	...	...	...	858
Informal notices served	...	...	...	...	1317
Verbal notices	...	...	...	...	534
Legal notices served	...	...	...	...	1320

#### NUISANCES ABATED.

Houses, etc., limewashed	...	...	...	...	1260
Overcrowding abated	...	...	...	...	15
House roofs, etc., repaired	...	...	...	...	854
Eaves gutters and downspouts repaired	...	...	...	...	461
Closets converted	...	...	...	...	1720
Ashpits or pails repaired	...	...	...	...	168
Drains reconstructed (excluding closet conversions)	...	...	...	...	47
Drains opened, trapped or repaired	...	...	...	...	358
Yards repaired or flagged	...	...	...	...	111
Miscellaneous repairs	...	...	...	...	1031
Miscellaneous nuisances abated	...	...	...	...	615

#### DISINFECTIONS.

Houses disinfected	...	...	...	...	1075
Articles disinfected	...	...	...	...	5846
Articles destroyed	...	...	...	...	68

#### COMPLAINTS.

From Public	...	...	...	...	193
From Factory Inspector	...	...	...	...	16
Reports on complaints to Factory Inspector	...	...	...	...	27

#### PLACES UNDER INSPECTION.

Common lodging-houses	...	...	...	...	36
Houses-let-in-lodgings	...	...	...	...	41
Factories	...	...	...	...	339
Factory Chimneys	...	...	...	...	226
Workshops and Workplaces	...	...	...	...	806
Bakehouses	...	...	...	...	302
Outworkers' Premises	...	...	...	...	17
Offensive trades	...	...	...	...	24
Slaughterhouses	...	...	...	...	33
Cowsheds	...	...	...	...	360
Milk-shops	...	...	...	...	410
Public Sanitary Conveniences	...	...	...	...	23
Travelling Vans	...	...	...	...	147

### Factories and Workshops.

In accordance with the provisions of Section 132 of the Factory and Workshop Act, 1901, the Medical Officer of Health is required to make to the Secretary of State for the Home Office the following report which gives in addition to other information, the total number of defects found and notices served.

#### I.—INSPECTION.

Premises.	Number of		
	Inspection.	Written Notices.	Prosecutions.
Factories ... .. (Including Factory Laundries)	336	13	—
Workshops ... .. (Including Workshop Laundries)	629	9	—
Workplaces ... .. (Other than Outworkers' premises)	285	4	—
Total ... ..	1250	26	—

#### 2.—DEFECTS.

Particulars.	Number of Defects.			Number of Prosecutions.
	Found	Remedied	Referred to H.M. Inspector	
<i>Nuisances under the Public Health Acts:—*</i>				
Want of cleanliness ... ..	45	45	—	—
Want of ventilation ... ..	—	—	—	—
Overcrowding ... ..	—	—	—	—
Want of drainage of floors ... ..	—	—	—	—
Other nuisances ... ..	2	2	—	—
Sanitary accommodation { insufficient ... ..	4	4	—	—
{ unsuitable or defective ... ..	7	7	—	—
{ not separate for sexes ... ..	1	1	—	—
<i>Offences under the Factory and Workshop Acts:—</i>				
Illegal occupation of underground bake-house (s. 101) ... ..	—	—	—	—
Other offences ... ..	2	2	—	—
(Excluding offences relating to outwork and offences under the Sections mentioned in the Schedule to the Ministry of Health (Factories and Workshops Transfer of Powers) Order 1921).				
Total ... ..	61	61	—	—

\* Including those specified in sections 2, 3, 7 and 8 of the Factory and Workshop Act, 1901, as remediable under the Public Health Acts.

There was no outwork found to be carried on in unwholesome premises during the year.

### Smoke Abatement.

The Smoke Abatement Act of 1926 has, so far as Bolton is concerned, added nothing whatever to the powers we possessed for dealing with the smoke nuisance.

The Bolton Public Health Authority has decided to appoint some time during 1930 a special inspector to deal with the smoke question. Every effort will be made to ensure the success of the efforts of this inspector and to bring about some diminution in the atmospheric pollution resulting from the burning of soft coal.

The standard by which we are guided in determining whether a nuisance has been committed by reason of the emission of black smoke is as follows in Bolton :

The emission of black smoke for periods which in the aggregate exceed two minutes in any half-hour is a nuisance, but bursts of black smoke for periods of less than thirty seconds must not be counted.

The work done for the enforcement of this standard in 1929 was as follows :

564 half-hour observations were taken. Of these observations :

222 showed no emission of black smoke.

113 showed  $\frac{1}{2}$  minute of black smoke

184 showed 1 minute of black smoke.

36 showed  $1\frac{1}{2}$  minutes of black smoke.

9 showed more than 2 minutes of black smoke.

In these last cases notices to abate the nuisances were served.

I sincerely hope that in the next twelve months the amount of smoke issuing from Bolton's chimneys may greatly increase, though not in such a manner as to constitute a nuisance.

## PREMISES CONTROLLED BY BYE-LAWS OR REGULATIONS.

### Common-Lodging-Houses.

The number of registered common-lodging-houses in Bolton is 36. In 1926 there were 38.

The ward distribution of these common-lodging-houses and the accommodation they afford is as follows :

Ward.			Houses.		Rooms.		Beds.
Exchange	...	...	11	...	66	...	214
East	...	...	21	...	134	...	694
Church	...	...	2	...	17	...	186
Derby	...	...	2	...	16	...	74

### ACCOMMODATION FOR THE SEXES.

Description.			Houses.	Males.	Females.	Couples.
Males only	...	...	24	899	...	...
Females only	...	...	1	...	56	...
Males and Females	...	...	1	27	8	...
Females and Couples	...	...	3	...	23	19
Males and Couples	...	...	3	45	...	7
Males, Females and Couples	...	...	4	35	25	24
			<hr/> 36	<hr/> 1006	<hr/> 112	<hr/> 50

The provision of, and the demand for, common-lodging-house accommodation is quite fairly shown by the following table which shows the amount of accommodation provided in March, 1930, and the amount actually in use on the night of the 12th March, 1930.

### CENSUS TAKEN ON THE NIGHT OF MARCH 12th, 1930.

- |     |  |     |     |
|-----|--|-----|-----|
| (1) | No of common-lodging-houses in the Borough | ... | 35  |
| (2) | Accommodation :                            |     |     |
| (1) | Beds for single men                        | ... | 965 |
| (2) | Beds for single women                      | ... | 92  |
| (3) | Beds for married couples                   | ... | 41  |

(3) Actual number of beds occupied on the night of  
12th March, 1930 :

(1)	Beds for single men	...	...	...	592
(2)	Beds for single women	...	...	...	55
(3)	Beds for married couples	...	...	...	32

(4) Number of persons who had been living at the  
common-lodging-houses :

(a)	For not more than one week	...	...	...	130
(b)	For over a week but not more than thirty days	...	...	...	129
(c)	From one month but less than six months	...	...	...	26
(d)	For six months or over	...	...	...	426

Prices for beds vary to the following extent :

Single beds from 6d. to 1/2d, the latter price being for cubicles.  
Double beds 1/2d and 1/4d.

The common-lodging-house accommodation for males is at present quite definitely in excess of the demand.

Frequent night visits are paid by the sanitary inspectors to all the common-lodging-houses.

#### **Houses-Let-in-Lodgings.**

Bye-laws for the regulation of these premises have been approved by the Ministry of Health.

### Vans.

There were 33 living vans in Bolton at the close of 1929.

The following table gives the location of these vans and gives particulars of their occupants.

Situation.	No. of Vans.	Occupants.	
		Adults	Children
Fern Street ... ..	7	16	8
31, Bridgman Street ... ..	2	4	1
Cheetham Court ... ..	1	1	2
Corner of Bridge St. and St. George's St. ...	7	10	2
Land adjoining Tonge Moor House ...	5	5	2
Tonge Head Farm, near Tonge Moor Road	2	2	1
Radcliffe Road (200 yards from Long Lane)	1	2	2
Rear of 405, Radcliffe Road ... ..	1	1	—
Croft Side ... ..	1	3	2
Field adjoining Withins Lane ... ..	1	2	—
Adjoining Capitol Bleachworks ... ..	1	2	—
Barrow Bridge ... ..	1	1	—
Back Darley Street ... ..	2	2	—
Cotton Street ... ..	1	2	4
	33	53	24

### Offensive Trades.

Offensive trades are being carried on in 24 different premises in Bolton. The nature of these trades and their distribution in the wards of the town is shown in this table :

## OFFENSIVE TRADES.

Trade.	Added Area.	West.	Halliwel.	Bradford.	Derby.	East.	Church.	North.	Rumworth.	Exchange.	TOTAL.
Tripe Boilers ... ..	1	...	...	2	...	...	1	...	...	...	4
Fellmongers and Tanners ... ..	...	1	...	1	...	...	...	...	...	...	2
Hide and Skin Depots ... ..	...	...	...	...	...	1	...	...	...	1	2
Gut Scraping ... ..	...	...	...	1	...	...	...	...	...	...	1
Blood Boiler ... ..	...	...	...	...	...	...	1	...	...	...	1
Soap Works... ..	1	...	...	...	...	...	...	...	...	...	1
Chemical Works ... ..	...	...	...	...	...	1	1	...	...	...	2
Muriatic Acid Works ... ..	1	...	...	...	...	...	...	...	...	...	1
Tar and Ammoniated Sulphate Works ... ..	1	...	...	...	...	...	...	...	...	...	1
Brick Works ... ..	6	...	1	...	...	...	...	...	1	...	8
Knackers' Yard ... ..	...	...	...	...	...	...	1	...	...	...	1
Total Offensive Trades ... ..	10	1	1	4	...	2	4	...	1	1	24

No serious nuisance has arisen in connection with any of the above trades.

**Slaughterhouses.**

Slaughtering accommodation is provided in Bolton as follows :—

The Bolton Corporation owns Public Abattoirs which are administered by the Markets Committee. These Abattoirs are not up-to-date and provide accommodation for only a small portion of the slaughtering done in Bolton.

I have in previous reports expressed the opinion that all slaughtering done in Bolton should be centralised and carried out on up-to-date premises owned and administered by the corporation.

There are 12 registered and 5 licensed private slaughterhouses in the Borough, all of which have been in regular use throughout the year 1929.

The Corporation's Abattoir has accommodation for slaughtering all classes of animals and the private slaughterhouses are used as follows :—

For Cattle, Sheep and Pigs ... ..	8 Slaughterhouses
For Cattle and Pigs ... ..	1 Slaughterhouse
For Cattle only ... ..	1 Slaughterhouse
For Pigs only ... ..	7 Slaughterhouses

No change of occupancy has occurred during the year.

Very frequent visits of inspection are made to all slaughterhouses for the purpose of inspecting the meat and for the supervision of all the conditions in the slaughterhouses.

During the year 1929 the number of such visits paid to the slaughterhouses by your officers was 2,384.



SECTION IV.



Housing.



## HOUSING.

779 new houses were completed in Bolton in 1929. The number completed in 1928 was 479.

The number of new houses built in Bolton in each year since 1921 is as follows :

Year.		Private Enterprise.		Municipal Schemes.		Total.
1921	...	34	...	191	...	225
1922	...	18	...	462	...	480
1923	...	111	...	30	...	141
1924	...	351	...	3	...	354
1925	...	502	...	179	...	681
1926	...	610	...	251	...	861
1927	...	571	...	510	...	1,081
1928	...	319	...	160	...	479
1929	...	551	...	228	...	779

128 of the houses erected by the Local Authority received State Assistance.

439 of those erected by private enterprise received similar assistance.

The number of unsubsidized houses erected in 1929 was therefore 212.

The following table shows the number of houses and the number of inhabitants per house in Bolton since 1901.

			Houses.		Inhabitants per House.
Census	1901	...	36,177	...	4'64
"	1911	...	41,585	...	4'34
"	1921	...	42,475	...	4'28
Estimated	1925	...	44,193	...	4'08
"	1926	...	45,054	...	3'92
"	1927	...	46,088	...	3'86
"	1928	...	46,547	...	3'88
"	1929	...	47,287	...	3'83

The need of more housing accommodation in Bolton is obvious and urgent. Apart from families living in dwellings which one would like to be able to close as being unfit for habitation, there are a very large number of families paying exorbitant charges for very inferior accommodation in houses-let-in-lodgings. It is extremely desirable that something should be done for these victims of an extremely greedy type of private enterprise.

### Slum Areas.

Not all inhabitants of slum areas and slum dwellings are persons of slum habits. Many of them are persons who, through no fault of their own, are persons of slum incomes. Any one who knows slums, in Bolton as elsewhere, must be familiar with the fact that one comes in such places fairly frequently on interiors which display a neatness and cleanliness which are really beyond all praise amidst such very unfavourable surroundings.

The problem of dealing with these people is not one to be solved by bringing elevating influence to bear on them. The problem is to provide them with decent dwelling accommodation at a price that they can afford. I would urge on those with whom lies the practical solution of this problem that it is still true that half a loaf is better than no bread and that it is still wise to cut one's coat according to one's cloth.

For until the millenium comes, we shall have these people with us.

Another class of slum inhabitants are persons whose incomes are sufficient to provide decent dwelling accommodation. They are often persons of genuine slum habits. Many of them will respond to decent surroundings and those who will not should be subjected to any degree of supervision that may be necessary. There should be no real difficulty in dealing with this class if we will only remember that it will be foolish to force upon them an article which is beyond their means, although they can afford one which would be a vast improvement on what they now possess.

And lastly we have the third class of slum dwellers—persons of slum habits and slum incomes, the slum incomes being mainly the result of the slum habits. These people, unless subjected to strict supervision, would make slums anywhere. They should be housed in dwellings provided by the community and should be made to comply with a reasonable standard of decent living.

I take this opportunity of repeating what I said in last year's report—that the clearance and reconstruction of slum areas cannot be taken in hand until provision has been made for the housing of the inhabitants of such areas.

The first and most urgent duty imposed upon any body responsible for dealing with the housing question is to provide as soon as possible and as far as possible decent dwelling accommodation for those members of the community who at the present time are living under conditions destructive of self respect and of the amenities of family life in slum dwellings or in very objectionable "houses-let-in-lodgings."

What we owe to future generations is that we shall get rid of existing slums for whose growth we and our ancestors are responsible, and that we shall take every possible step to prevent fresh slums springing up in our towns. Sub-letting will always breed slums, and unless this evil is most carefully controlled, we shall never get rid of slums.

It is of the highest importance that all interested in the question of getting rid of slums and insanitary property should realise that the first step is to settle quite definitely how the occupants of the insanitary dwellings in question are to be provided for.

In conclusion, I desire to record with as much emphasis as possible, my conviction that Bolton's slum problem will never be solved by the provision of housing estates with eleven houses to the acre.

#### 1.—INSPECTION OF DWELLING-HOUSES DURING THE YEAR.

(1) Total number of dwelling-houses inspected for housing defects (under Public Health or Housing Acts) ...	4690
(2) Number of dwelling-houses (included under sub-head (1) above) which were inspected and recorded under the Housing Consolidated Regulations, 1925 ...	2046
(3) Number of dwelling-houses found to be in a state so dangerous or injurious to health as to be unfit for human habitation ... ..	64
(4) Number of dwelling-houses (exclusive of those referred to under the preceding sub-heading) found not to be in all respects reasonably fit for human habitation	1606

#### 2.—REMEDY OF DEFECTS WITHOUT SERVICE OF FORMAL NOTICES.

Number of defective dwelling-houses rendered fit in consequence of informal action by the Local Authority or their officers ... ..	1007
--	------

#### 3.—ACTION UNDER STATUTORY POWERS DURING THE YEAR.

##### A. *Proceedings under Section 3 of the Housing Act, 1925.*

(1) Number of dwelling-houses in respect of which notices were served requiring repairs... ..	597
---	-----

(2)	Number of dwelling-houses which were rendered fit after service of formal notices—	
(a)	by owners ... ..	393
(b)	by Local Authority in default of owners	204
(3)	Number of dwelling-houses in respect of which Closing Orders became operative in pursuance of declarations by owners of intention to close ... ..	—

B. *Proceedings under Public Health Acts.*

(1)	Number of dwelling-houses in respect of which notices were served requiring defects to be remedied ... ..	16
(2)	Number of dwelling-houses in which defects were remedied after service of formal notices—	
(a)	by owners ... ..	16
(b)	by Local Authority in default of owners	—

C. *Proceedings under Sections 11, 14 and 15 of the Housing Act, 1925.*

(1)	Number of representations made with a view to the making of Closing Orders ... ..	64
(2)	Number of dwelling-houses in respect of which Closing Orders were made ... ..	64
(3)	Number of dwelling-houses in respect of which Closing Orders were determined, the dwelling-houses having been rendered fit ... ..	2
(4)	Number of dwelling-houses in respect of which Demolition Orders were made ... ..	6
(5)	Number of dwelling-houses demolished in pursuance of Demolition Orders ... ..	—

The following tables give particulars as to numbers and situation in Wards of houses which were completed and certified during 1929, of all houses which were in course of construction during 1929, but which were unfinished at its close, and of all houses for which plans had been passed during 1929, but whose construction had not been begun when this year ended.

New Houses Certified, 1929.

Ward.	Number		Total.
	Subsidy.	Non-Subsidy.	
Central ... ..	5	109(a)	114
Rumworth... ..	43	3	46
Halliwell ... ..	88	1	89
Tonge ... ..	109(b)	12	121
Astley Bridge ... ..	41	7	48
Great Lever ... ..	114(c)	20	134
Smithills ... ..	127	8	135
Hulton ... ..	25	9	34
Darcy Lever-cum-Brightmet ... ..	—	4	4
Deane-cum-Lostock ... ..	7	12	19
Heaton ... ..	8	27	35
TOTAL	567	212	779

- (a) Includes 100 houses Quebec Street Re-housing site.  
 (b) Includes 64 houses Castleton Street housing site.  
 (c) Includes 64 houses Paulhan Street housing site.

Houses in course of construction on 31st December, 1929.

Ward.	Number		Total.
	Subsidy.	Non-Subsidy.	
Central ... ..	70(b)	19	89
Rumworth ... ..	—	—	—
Halliwell ... ..	—	—	—
Tonge ... ..	100(b)	12	112
Astley Bridge ... ..	58(b)	10	68
Great Lever ... ..	—	30	30
Smithills ... ..	—	17	17
Hulton ... ..	—	23	23
Darcy Lever-cum-Brightmet ... ..	62(b)	9	71
Deane-cum-Lostock ... ..	178(b)	80(a)	258
Heaton ... ..	—	29	29
TOTAL ... ..	468	229	697

- (a) Including 58 on Hulton Lane Re-housing site.  
 (b) Houses being erected by the Local Authority under the 1924 Housing Act.

Houses for which plans had been approved but construction had not been commenced on 31st December, 1929.

Ward.	Number		Total.
	Subsidy.	Non-Subsidy.	
Central ... ..	—	—	—
Rumworth ... ..	—	—	—
Halliwell ... ..	—	—	—
Tonge ... ..	—	18	18
Astley Bridge ... ..	—	12	12
Great Lever ... ..	—	20	20
Smithills ... ..	—	16	16
Hulton ... ..	—	16	16
Darcy Lever-cum- Broughton ... ..	—	10	10
Deane-cum-Lostock ... ..	—	12	12
Heaton ... ..	—	30	30
TOTAL ... ..	—	134	134

The 1923 Housing Act (under which private enterprise was building) ceased to operate on the 30th September, 1929.

The only subsidy now granted and paid is in respect of houses erected under the Housing (Financial Provisions) Act, 1924, i.e. for the houses being erected by the Corporation.



SECTION V.

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Inspection and Supervision  
of Food, etc.



The Milk and Dairies Order, 1926.

COWKEEPERS, DAIRYMEN AND PURVEYORS OF MILK.

Cowkeepers on register (1928)	...	...	...	...	129
„ added to register (1929)	...	...	...	...	4
„ discontinued (1929)	...	...	...	...	7
			Total	...	<u>126</u>
Cowsheds on register (1928)	...	...	...	...	368
„ added to register (1929)	...	...	...	...	12
„ discontinued (1929)	...	...	...	...	20
			Total	...	<u>360</u>

The following statement shows the number of cowkeepers, cowsheds, number of cows provided for, and the average number of cows in sheds in the respective districts on 31st December, 1929 :—

Number of District	Cowkeepers	Cowsheds	Number of Cows provided for	Average number of Cows in sheds
1	14	41	364	305
2	32	89	918	685
3	19	49	464	369
4	19	59	469	365
5	18	48	426	285
6	23	72	661	624
7	1	2	18	17
<u>Totals</u>	<u>126</u>	<u>360</u>	<u>3320</u>	<u>2650</u>

Number of dairies and premises of milk purveyors on register (31st December, 1929) ... .. 410

The systematic inspection of cows and cowsheds in the Borough has been maintained throughout the year.

The following table shows the number of visits to dairy farms, the number of cowsheds inspected, and the number of cows examined as compared with the previous year:—

Year.	Visits to Dairy Farms.	Cowsheds inspected.	Number of Cows examined.
1929	295	893	6660
1928	315	997	7520

On visiting each farm a careful clinical examination is made of all cows for definite signs of tuberculosis and particular attention is given to the examination of the udders for the purpose of detecting early lesions of tuberculosis, and other diseases which are notifiable under the various Acts and Orders.

During the year nine samples of milk were taken from individual cows with suspected tuberculosis of the udder and submitted to the biological test. Seven of these were found to contain tubercle bacilli, and two were reported to be negative. The cows from which these positive milk samples were obtained have been slaughtered and dealt with under the provisions of the Tuberculosis Order.

Three control samples of milk involving groups of cows were taken, all of which on examination were reported to be negative.

Many improvements and structural alterations have been carried out in existing cowsheds. The interiors of two cowsheds have been reconstructed and equipped with modern fittings, and two new cowsheds have been erected during the year.

#### PROSECUTIONS UNDER THE MILK AND DAIRIES ORDER, 1926.

1. For failing to limewash the interior of a cowshed in contravention of Section 22 of the Order, a farmer was fined £1.
2. For failing to keep their clothing in a cleanly condition whilst engaged in the milking of cows as required by Section 15 of the Order—two persons were fined 5/- each.

**Milk (Special Designations) Order, 1923.**

The following licences were granted during the year 1929 under this Order.

Producers Licence to use the designation " Certified " ... (Licence issued by Ministry of Health.)	1
Dealers Licence to use the designation " Certified " ...	1
Producers Licence to use the designation "Grade A" ...	4
Dealers Licence to use the designation "Grade A" ...	2
Dealers Licence to use the designation " Pasteurized " ... (Licence is in respect of a Pasteurizing establishment.)	1
Supplementary Licence to use the designation " Pasteurized " ... ..	1
Supplementary Licence to use the designation " Certified " ... ..	1

**" Certified " Milk.**

A licence to produce "Certified" Milk has been granted to one dairy farmer in the Borough.

In accordance with the provisions of the Order for producers of "Certified" Milk, every animal of the herd has been submitted to a veterinary examination and to the prescribed intra-dermal tuberculin test twice during the year by this department.

**"Grade A" Milk.**

Licences to produce "Grade A" Milk have been granted by this department to four dairy farmers in the Borough.

These farms have been visited monthly, when all recently purchased cows were submitted to a careful veterinary examination before being admitted to the herd. In addition to examining the cows, the premises were carefully inspected during each visit to ascertain that the provisions of the Order in regard to cleanliness of the cows, cowsheds, and dairies, and the production, storage, and treatment of the milk were being carried out satisfactorily.

## GENERAL FOOD INSPECTION.

The general inspection of the food supplies of Bolton has been systematically carried out during 1929 by our Veterinary Surgeon, Mr. R. P. Holmes, F.R.C.V.S., and the Assistant Meat Inspector, Mr. H. Whitaker.

I append the report of Mr. Holmes.

### General Inspections.

Cattle	...	...	10,567	Farms	...	...	...	341
Calves	...	...	274	Slaughterhouses	...	...	...	2,384
Sheep	...	...	47,036	Knacker's Yard	...	...	...	22
Pigs	...	...	8,152	Tripe Works	...	...	...	54
Store Cattle	...	...	236	Gut Cleaners	...	...	...	31
Railway Sidings	...	...	134	Food Preparation Premises	...	...	...	471
Fairs	...	...	62	Meat Carriers' Vehicles	...	...	...	558
Public Markets	...	...	533					

### Shops, Stalls and Stores.

Beef Butchers	...	...	2,194	Provision Dealers	...	...	1,953
Pork Butchers	...	...	930	Fruiterers	...	...	1,874
Wholesale Meat Stores	...	...	234	Fishmongers	...	...	1,096
Cold Stores	...	...	30	Street Hawkers	...	...	953
Ice Boxes	...	...	596	Cellars	...	...	377

CARCASSES FOUND TO BE AFFECTED WITH DISEASE.

Disease or Defect.	Examined				Action taken		Examined	Action taken		Examined	Action taken		Examined	Action taken	
	Cows	Bulls	Heifers	Bullocks	Whole carcase destroyed	Parts and Organs destroyed		Whole carcase destroyed	Parts and Organs destroyed		Whole carcase destroyed	Parts and Organs destroyed		Pigs	Whole carcase destroyed
erculosis ...	1153	41	40	106	208	1132	18	8	10	...	...	...	257	20	237
ty ...	28	2	1	4	...	35	1	...	1	4	...	4	25	...	25
monia ...	5	1	...	1	1	6	...	...	...	...	...	...	3	...	3
lo. Parasitic	...	...	...	...	...	...	...	...	...	5	...	5	...	...	...
lo. Septic	1	...	...	...	1	...	...	...	...	...	...	...	...	...	...
onitis ...	1	...	...	...	1	...	...	...	...	...	...	...	...	...	...
arditis ...	2	...	...	1	...	3	...	...	...	...	...	...	1	...	1
ritis ...	6	...	...	...	...	6	...	...	...	...	...	...	...	...	...
cæmia ...	1	...	1	...	2	...	2	2	...	2	2	...	...	...	...
as ...	14	2	...	4	...	20	...	...	...	...	...	...	2	...	2
erial Necrosis	12	1	1	7	...	21	1	...	1	...	...	...	...	...	...
omycosis ...	5	2	...	5	...	12	...	...	...	...	...	...	...	...	...
nococcus ...	181	3	1	38	...	223	...	...	...	1	...	1	8	...	8
matosis ...	244	8	14	391	...	657	...	...	...	93	...	93	...	...	...
mposition ...	...	...	...	...	...	...	3	3	...	29	29	...	1	1	...
ma ...	118	...	2	...	...	120	...	...	...	...	...	...	...	...	...
's Disease	8	...	...	1	8	1	...	...	...	...	...	...	...	...	...
ce ...	...	...	...	...	...	...	...	...	...	2	2	...	1	1	...
natism ...	6	1	...	...	...	...	...	...	...	...	...	...	...	...	...
a ...	2	...	...	1	3	7	6	6	...	24	24	...	3	3	...
turity ...	...	...	...	...	...	...	4	4	...	...	...	...	...	...	...
ed ...	10	...	...	...	10	...	...	...	...	...	...	...	2	2	13
collis...	...	...	...	...	...	...	...	...	...	...	...	...	13	...	...
sis ...	2	2	...	1	...	5	...	...	...	...	...	...	23	...	23
tis ...	7	...	...	...	...	7	...	...	...	...	...	...	...	...	...
tis ...	...	...	...	...	...	...	...	...	...	...	...	...	1	...	1
ation ...	1	...	...	...	1	...	...	...	...	...	...	...	...	...	...
Metritis	1	...	...	...	1	...	...	...	...	1	1	...	...	...	...
Total ..	1808	63	60	560	236	2255	35	23	12	161	58	103	340	27	313

**Number of Organs Destroyed for Tuberculosis and Other Conditions  
in the Different Classes of Animals during 1929**

	Cattle.	Calves.	Sheep.	Pigs.	Total.
<b>LUNGS :</b>					
Tuberculosis ... ..	1152	18	...	118	1288
Other conditions ...	318	16	77	33	444
<b>HEARTS :</b>					
Tuberculosis ... ..	567	14	...	105	686
Other conditions ...	48	15	65	7	135
<b>BOWELS :</b>					
Tuberculosis ... ..	603	9	...	91	703
Other conditions ...	44	15	62	6	127
<b>STOMACHS :</b>					
Tuberculosis ... ..	574	9	...	89	672
Other conditions ...	45	15	59	5	124
<b>SPLEENS :</b>					
Tuberculosis ... ..	580	11	...	88	679
Other conditions ...	41	15	63	5	124
<b>LIVERS :</b>					
Tuberculosis ... ..	830	13	...	110	953
Other conditions ...	1052	15	199	50	1316
<b>KIDNEYS :</b>					
Tuberculosis ... ..	26	...	...	...	26
Other conditions ...	28	...	...	6	34
<b>HEADS :</b>					
Tuberculosis ... ..	650	7	...	230	887
Other conditions ...	48	11	63	3	125
<b>TOTALS ... ..</b>	<b>6606</b>	<b>183</b>	<b>588</b>	<b>946</b>	<b>8323</b>



Weight of Unsound Meat Destroyed.

	Number	tons.	cwts.	qrs.	lbs.
Beef Carcases ...	236	54	15	2	24
„ Fore Quarters ...	55	3	3	3	10
„ Hind Quarters ...	7	...	8	0	14
„ Briskets ...	251	1	13	2	13
„ Offals ...	...	32	4	1	0
Mutton Carcases ...	58	1	2	3	15
„ Offals ...	...	...	7	0	10
Pork Carcases ...	27	1	13	3	10
„ Offals ...	...	2	3	3	6
Veal Carcases ...	35	...	9	3	27
„ Offals ...	...	...	3	0	22
Total Weight ...	...	98	6	1	11

In addition to the above, the following unsound imported meat and offals were destroyed, chiefly owing to decomposition :

	cwts.	qrs.	lbs.
Beef ... ..	8	2	6
„ Livers ... ..	...	1	13
Shredded Suet ... ..	...	1	0
Mutton ... ..	...	1	5
Total Weight ... ..	9	1	25

**Unsound Fish Destroyed.**

					tons.	cwts.	qrs.	lbs.
Bream	...	...	...	...	...	...	...	25
Cod	...	...	...	...	...	...	1	17
Finnan Haddock	...	...	...	...	...	...	2	0
Fillets	...	...	...	...	...	13	11	7
Herrings	...	...	...	...	...	2	2	14
Kippers	...	...	...	...	...	3	3	0
Ling...	...	...	...	...	...	...	1	4
Mullet (Red)	...	...	...	...	...	1	1	0
Plaice	...	...	...	...	...	...	1	0
Salmon	...	...	...	...	...	1	3	4
Shrimps	...	...	...	...	...	1	1	0
Sprats	...	...	...	...	...	5	1	12
Whiting	...	...	...	...	...	...	...	14
Total weight					1	13	2	13

**Unsound Poultry and Rabbits Destroyed.**

					Number	cwts.	qrs.	lbs.
Chickens	...	...	...	...	35	...	4	0
Turkeys	...	...	...	...	20	3	3	14
Rabbits	...	...	...	...	464	7	2	20
Total					519	12	2	6

**Canned Foods and Provisions Destroyed as Unsound.**

	Number of Tins, etc.	tons	cwts.	qrs.	lbs.
Fish ... ..	63	...	...	2	7
Meat and Vegetables...	24	...	...	...	24
Ox Tail ... ..	8	...	...	...	16
Ox Tongue ... ..	19	...	...	1	12
Corned Beef ... ..	5	...	...	1	7
Bacon ... ..	...	...	...	...	5
Pigs Maws ... ..	1	...	1	2	0
Milk ... ..	108	...	...	3	0
Mayonnaise ... ..	48	...	...	1	8
Salad Cream ... ..	44	...	...	1	5
Chocolates and Sweets	...	1	1	0	0
Jam ... ..	22	...	...	...	22
Preserved Ginger ...	...	...	...	...	4
Fruit ... ..	116	...	1	0	4
Liquid Eggs ... ..	2	...	...	2	16
Eggs ... ..	51	...	...	...	6
Total ... ..		1	7	1	24

**Unsound Fruit and Vegetables Destroyed.**

	tons.	cwts.	qrs.	lbs.
Apples ... ..	...	16	1	0
Apricots ... ..	...	3	0	14
Blackcurrants ... ..	...	...	2	24
Dates ... ..	...	2	2	20
Gooseberries ... ..	...	...	...	25
Grape Fruit ... ..	2	0	1	22
Melons ... ..	...	...	2	0
Oranges ... ..	...	...	2	14
Pears ... ..	...	1	1	20
Raspberries ... ..	...	...	...	12
Strawberries ... ..	...	...	3	16
Tomatoes ... ..	...	9	0	24
Cabbages ... ..	...	2	0	0
Celery ... ..	...	...	2	4
Pears ... ..	...	1	1	0
Potatoes ... ..	1	2	0	0
Sprouts ... ..	...	...	1	2
Swedes ... ..	1	10	0	0
Total ... ..	6	12	0	9

### **Unsound Food.**

Proceedings were instituted and convictions obtained in the following cases :—

1. Being in possession of unsound meat intended for the food of man.  
Fined £13.
2. Being in possession of unsound bacon intended for the food of man.  
Fined £5.

### **Sale of Food Order, 1921.**

Special attention has been directed to the enforcement of the provisions of this Order throughout the year, and although it has been found necessary to administer cautions in fifteen instances for minor breaches, the requirements under the Order have been generally well observed.

Proceedings were taken against one trader for failing to label imported pork as such, and a fine of 10/- was imposed.

### **Public Health (Meat) Regulations, 1924.**

The enforcement of the provisions of these regulations continues to have a marked effect upon the general conditions prevailing in the storage, handling, and distribution of the food supply within the Borough. Visits of inspection are regularly carried out of shop premises, market stalls, store-rooms, ice-boxes, utensils, etc.

In only ten instances were signs of negligence discovered, and in each case a caution was deemed sufficient.

### **Notices received under the Public Health (Meat) Regulations, 1924.**

Written notifications of regular slaughtering at fixed times on

fixed days ... ..	15
Notifications of slaughtering at other than fixed times on fixed days	416

**Notification of disease or suspected disease or unsoundness.**

Relating to cattle	...	...	...	...	...	...	...	370
„ sheep	...	...	...	...	...	...	...	7
„ pigs	...	...	...	...	...	...	...	78
„ calves	...	...	...	...	...	...	...	11
Total . . . . .								<hr/> 466 <hr/>

**Diseases of Animals Acts, 1894 to 1927.**

It is the duty of this department of the Local Authority to enforce the provisions of the Diseases of Animals Acts, and Orders of the Ministry of Agriculture and Fisheries in all outbreaks of scheduled Contagious Diseases of Animals.

The following is a brief account of the principal Orders under which work has been carried out during the year.

**Tuberculosis Order of 1925.**

The provisions of this Order require notification of disease by every person having in his possession or under his charge any bovine animal which is, or appears to be, suffering from tuberculosis of the udder, or giving tuberculous milk, or a bovine animal which is suffering from tuberculous emaciation, or suffering from a chronic cough and showing definite clinical signs of tuberculosis.

The following table shows the number of animals examined under the Order, the number of animals slaughtered, and the form in which they were diseased:—

Total Number of Animals Examined	Number of Animals Slaughtered	Number with Tuberculosis of Udder	Number giving Tuberculous Milk	Number with Tuberculous Emaciation	Number with chronic cough and definite signs of Tuberculosis
532	22	6	1	8	7

**The Anthrax Order of 1928.**

On the 29th April, an outbreak of anthrax occurred on one of the farms in the Borough. One cow died, and was found to be affected with the disease. The carcass was removed to Wellington Yard and destroyed.

All precautions were taken to prevent the spread of the disease, and the infected premises were thoroughly cleansed and disinfected in accordance with the provisions of the Order.

In connection with the above outbreak, proceedings were taken against the farmer who was convicted and fined £10 for cutting the skin of an anthrax carcase in contravention of the Order.

#### **Foot and Mouth Disease.**

During the year no outbreaks of this disease have occurred in the Borough.

#### **Swine Fever.**

No outbreaks of this disease have occurred in the Borough during the year. One suspected case was reported, but on investigation it was found to be negative.

#### **Parasitic Mange.**

Under the Parasitic Mange Order one suspected case was reported during the year. Microscopical examination was made of skin scrapings from the animal with negative results.

#### **Movement of Animals (Records) Order of 1925.**

The object of this Order is to facilitate the tracing of all animals which may have been exposed to infection, and for this purpose all persons moving or permitting the movement of animals are required to keep a record in the form specified, showing such movements.

Frequent inspections have been made of records kept by farmers, butchers and cattle dealers during the year to ascertain that the provisions of the Order are being carried out.

#### **Foot and Mouth Disease (Boiling of Animal Foodstuffs) Order of 1928.**

The provisions of this order require that any meat, bones, offal or other part of the carcase of an animal, or any swill, or any other broken

or waste foodstuffs which have been in contact with meat, bones, offal, or other part of the carcase of an animal, shall be boiled for at least one hour before being brought into contact with, or fed to, animals.

Frequent visits have been made during the year to piggeries, farms, and other premises where animal foodstuffs are being fed to animals. On each of the premises visited the provisions of the Order were found to be carried out satisfactorily.

#### **Foot and Mouth Disease (Packing Materials) Order of 1925 and 1926.**

The provisions of this Order prohibit hay and straw which has been used for packing purposes, from being brought into contact with cattle, sheep, goats, other ruminating animals and swine, and if not returned for further use as packing material it must be destroyed.

The Order also provides that no material which has been used for the wrapping of meat, meat products, or offals, shall be brought into contact with any of the above-named animals unless it has been sterilized by boiling.

During the year visits have been paid to 25 premises in the Borough, including sack merchants, provision dealers, drysalteries, tea merchants, general store dealers, breweries, and wholesale meat stores, etc.

On each of the premises visited, enquiries were made as to the ultimate disposal of the packing materials, and in each case it was found that the provisions of the Order were being carried out.

#### **Animals (Landing from Ireland, Channel Islands and Isle of Man) Order of 1923.**

Under the provisions of this Order the movement of all animals from the above-named islands to a destination in Great Britain is controlled by licences issued by the Ministry of Agriculture and Fisheries. The checking of these licences and inspection of the imported animals involves a considerable amount of time.

The following imported animals were received in the Borough during 1929 :—

Cattle	...	...	...	6734
Sheep	...	...	...	19114
Pigs	...	...	...	9575
Total ...				<u>35423</u>



### Importation of Animals Act, 1922.

A portion of the Bolton Cattle Market is licensed as an Authorised Market for the sale of imported cattle. During the year 236 Irish dairy cattle have been licensed by the Ministry of Agriculture and Fisheries to this Market. These cattle were inspected on arrival, and when sold, were allowed to be moved to dairy farms under further licences granted by this Department.

### Inspection of Markets.

The following table shows the number of animals examined at the Borough Cattle Markets during 1929.

The figures for the previous year are given for comparison :—

Year.	Number of Visits	Authorised Market	Cattle Market				
		Irish Dairy Cattle	Cattle	Sheep	Pigs	Calves	Total
1929	62	236	1399	49	85	1135	2904
1928	74	376	1298	28	199	1015	2916

### Rats and Mice (Destruction) Act, 1919.

During Rat Week (4th to 9th November) a special circular of advice, together with a copy of the Ministry's publication, Leaflet No. 244, on "The Destruction of Rats," was posted to the occupiers of over 300 premises within the Borough which are specially liable to rat and mice infestation, including farms, butchers, occupiers of slaughterhouses, piggeries, bakeries, provision dealers, corn merchants and bleachers, etc. A copy of the circular was also published in the Bolton Evening News. Fifty large posters, setting out the objects of the Campaign, and calling the attention of the public to their responsibilities under the Act, were printed and displayed in conspicuous positions in the district.

A large number of enquiries have been received at the Public Health Office during the year from the occupiers of various premises who were seeking advice, and in each case the respective premises were visited, and after a thorough investigation, advice suitable to the particular circumstance was given.



It is very difficult to form an accurate estimate of the number of these vermin destroyed, but from information obtained from many sources very satisfactory results have been secured.

The efforts to eradicate these pests have been continued throughout the year in pursuance of the above Act. Farms, corn-warehouses, piggeries, butchers' premises, tripe works, bleachworks, provision stores, and other premises have been frequently visited when the importance of the destruction of rats and mice has been pointed out and vigorous efforts have been made and are still in progress for their extermination.

## Sale of Food and Drugs Acts.

ADMINISTRATIVE RETURN OF ACTION TAKEN WITH REGARD TO  
SAMPLES NOT REPORTED TO BE GENUINE.

Article.	Nature of Adulteration.	Result.
Milk ... ..	5·6% added water ... ..	No action taken
Milk ... ..	8·7%     "     "     "     "     "     "	Fined 15/- and 15/6 costs
Milk ... ..	14·5%     "     "     "     "     "     "	Fined 15/- and 5/- costs
Milk ... ..	1·8%     "     "     "     "     "     "	Informal sample—
Milk ... ..	11·8%     "     "     "     "     "     "	Warning given do.
Milk ... ..	3·3% deficient in fat ... ..	do.
Milk ... ..	5·0%     "     "     "     "     "     "	do.
Milk ... ..	10·0%     "     "     "     "     "     "	do.
Milk ... ..	10·0%     "     "     "     "     "     "	do.
Milk ... ..	11·7%     "     "     "     "     "     "	do.
Milk ... ..	15·0%     "     "     "     "     "     "	do.
Milk ... ..	23·3%     "     "     "     "     "     "	do.
Condensed machine-skimmed milk sweetened	Contains the equivalent of 1·65 pints of skimmed-milk and not $1\frac{3}{4}$ pints as stated on the label or the contents of the tin should have weighed 319 gms., that is, there is a deficiency of 17 gms. or 5·6 per cent.	Informal sample.

OFFENCES OTHER THAN ADULTERATIONS.—Nil.

TOTAL FINES—£1 10 0.

TOTAL COSTS—£1 0 6

**Annual Report of the Public Analyst and Bacteriologist**

**for the year ended December 31st, 1929.**

**SUMMARY.**

	Number of Samples.
Food and Drugs ... ..	378
Bacteriological examinations for the M.O.H. ... ..	1372
Bacteriological examinations of Milk ... ..	264
Miscellaneous Analyses ... ..	105
Water Analyses ... ..	715
Gas Examinations ... ..	288
	<hr/>
	3122

**DETAILS OF FOOD AND DRUGS.**

	Total.	Genuine.	Adulterated.	Percentage Adulterated.
Milk ... ..	122	110	12	9·8
Condensed milk ... ..	2	1	1	50·0
Cream ... ..	2	2	...	...
Butter ... ..	21	21	...	...
Margarine ... ..	17	17	...	...
Cheese... ..	3	3	...	...
Lard ... ..	5	5	...	...
Coffee and Mixtures ... ..	15	15	...	...
Cocoa ... ..	7	7	...	...
Jams and Marmalades ... ..	1	1	...	...
Meat Products ... ..	19	19	...	...
Cereals... ..	11	11	...	...
Biscuits and Cakes ... ..	12	12	...	...
Condiments and Spices ... ..	19	19	...	...
Wines and Spirits ... ..	1	1	...	...
Drugs ... ..	33	33	...	...
Miscellaneous ... ..	88	88	...	...
	<hr/>	<hr/>	<hr/>	<hr/>
	378	365	13	3·4

**BACTERIOLOGICAL EXAMINATIONS.**

(For the M.O.H.)

	Total.	Positive.	Negative.	Doubtful.
Tuberculosis ... ..	1072	345	727	...
Diphtheria ... ..	273	41	227	5
Enteric Fever ... ..	27	7	20	...

**FOOD AND DRUGS.**

	Total examined.	Genuine.	Adulterated
MILK.	122	110	12

All the samples were examined for preservatives and colouring matter. In all cases these were found to be absent.

The satisfactory quality has been maintained, the average (exclusive of skimmed milk) being for the year :—

Milk fat.	Non-fatty solids.	Water.
3·65	8·76	87·59

Minimum limit :—Milk fat, 3·00 ; Non-fatty solids, 8·50.

The following table shows the monthly variation:

Month.	No. of samples.	Milk Fat.	Non-fatty solids.
January ... ..	0	—	—
February ... ..	0	—	—
March ... ..	25	3·65	8·74
April ... ..	23	3·76	8·77
May ... ..	0	—	—
June ... ..	33	3·65	8·88
July ... ..	0	—	—
August ... ..	16	3·37	8·57
September ... ..	20	3·72	8·85
October ... ..	10	3·71	8·79
November ... ..	0	—	—
December ... ..	0	—	—

#### CONDENSED MILK.

2 samples were examined. One sample was deficient in weight, as determined from analysis of milk constituents.

#### CREAM.

2 samples were examined. These were fresh cream and free from preservatives.

#### BUTTER.

21 samples have been examined, all were genuine and of good quality. Some few Irish butters have continued to give abnormal low volatile acidities, but searching examination has shown these to be genuine butter free from foreign fat.

#### MARGARINE.

17 samples have been examined. All were sweet and wholesome, and in no case was any preservative present.

#### CHEESE.

3 samples have been examined. These were whole meat of satisfactory fat content.

#### COFFEE AND COFFEE MIXTURES.

15 samples have been examined. The mixtures consisted of coffee and chicory only, usually in the proportion of about 50 per cent coffee and chicory.

#### COCOA.

7 samples have been examined. These were free from arsenic and shewed no excess of husk.

#### MEAT PRODUCTS.

19 samples have been examined. Of these, two were preserved with sulphur dioxide, this however was declared and within the prescribed limit.

#### WINES.

3 samples were examined. One of these was originally a red wine chemically bleached. (2 of these were private samples from M. O. H.)

#### DRUGS.

All the drugs were of good quality and complied with the requirements of the British Pharmacopœia.

#### MISCELLANEOUS EXAMINATIONS.

These were examinations of varied character from the Streets Department, Parks Department and the Police.

#### PUBLIC BATHS.

The water in the plunges at Moss Street, Bridgman Street and High Street have been examined monthly. The analyses reveal a general satisfactory condition.

Bacteriological Examination of Milk.VENDED MILK. (Bottled).

No Ministry of Health standard.

No. of samples examined...	...	...	...	...	37
Average Agar count per 1 c.c.	...	...	...	...	13,125
No. of samples with B. Coli in 1/1000 c.c.	...	...	...	...	Nil
"	"	"	1/100 c.c.	absent in 1/1000 c.c.	23 or 62.2%
"	"	"	1/10 c.c.	" 1/100 c.c.	8 or 21.8%
"	"	"	1 c.c.	" 1/10 c.c.	2 or 5.4%
"	"	"	absent in 1 c.c.		4 or 10.8%

The above samples contained total bacteria per 1 c.c. as follows :—

Under 1,000	1
1,000 to 5,000	3
5,000 to 10,000	7
10,000 to 20,000	7
20,000 to 30,000	6
30,000 to 40,000	9
40,000 to 50,000	2
over 100,000	2

" GRADE A " MILK.

Ministry of Health standard :—

Agar count not to exceed 200,000 per 1 c.c.  
 B. Coli absent in 1/100 c.c.

Number of samples examined	...	...	...	...	182
Average Agar count per 1 c.c.	...	...	...	...	4,248
No. of samples with B. Coli in 1/100 c.c.	...	...	...	...	13 or 7.2%
"	"	"	in 1/10 c.c.	absent in 1/100 c.c.	14 or 7.6%
"	"	"	in 1 c.c.	" 1/10 c.c.	22 or 12.1%
"	"	"	absent in 1 c.c.	...	133 or 73.1%

The above samples contained total bacteria per 1 c.c. as follows :—

Under 1,000	...	...	...	77
1,000 to 5,000	...	...	...	75
5,000 to 10,000	...	...	...	19
10,000 to 20,000	...	...	...	5
20,000 to 30,000	...	...	...	1
40,000 to 50,000	...	...	...	2
70,000 to 80,000	...	...	...	2
80,000 to 100,000	...	...	...	1

" CERTIFIED " MILK.

Ministry of Health standard :—

Agar count not to exceed 30,000 per 1 c.c.

B. Coli absent in 1/10 c.c.

Number of samples examined	...	...	...	...	45
Average Agar count per 1 c.c.	...	...	...	...	2,375
No. of samples with B. Coli in 1/100 c.c.	...	...	...	...	—
"	"	"	in 1/10 c.c. absent in 1/100 c.c.	6 or 13·3%	
"	"	"	in 1 c.c. " 1/10 c.c.	1 or 2·2%	
"	"	"	absent in 1 c.c. ...	38 or 84·4%	

PRESERVATIVES.

All samples were examined for preservatives (where such might reasonably be expected to be present).

	No. examined	No. containing preservative	Amount and nature of preservative
Milk ...	122	0	—
Cream ...	2	0	—
Meat Products	19	2	105 parts SO <sub>2</sub> per million
			110 " "
Valencia Raisins	2	2	60 " "
			11 " "
Wines	3	2	234 " "
			368 " "

ADULTERATED SAMPLES.

	Number Adulterated.	Extent of Adulteration.
Milk ...	12	1·6 per cent added water
		5·6 "
		8·7 "
		11·18 "
		14·5 "
		3·3 deficient in fat
		5·0 "
		10·0 "
		10·0 "
		11·7 "
		15·0 "
		23·3 "
Condensed Milk	1	deficient in contents as determined from milk constituents...5·6 per cent.





SECTION VI.

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Prevalence of, and Control  
over, Infectious Diseases.



## ACUTE INFECTIOUS DISEASES.

(Notifiable).

The infectious diseases compulsorily notifiable in Bolton are the following :—

Smallpox.	Acute Polio-encephalitis.
Scarlet Fever.	Acute Encephalitis Lethargica.
Diphtheria & Membranous Croup.	Typhus Fever.
Enteric or Typhoid Fever.	Relapsing Fever.
Pneumonia (Acute Primary and Acute Influenzal).	Continued Fever.
Cholera.	Dysentery.
Plague.	Ophthalmia Neonatorum.
Puerperal Fever.	Erysipelas.
Puerperal Pyrexia.	Malaria.
Cerebro-spinal Fever.	Tuberculosis (Pulmonary and other forms).
Acute Poliomyelitis.	

Trench Fever ceased to be notifiable on and after January 1st, 1928.

## PREVALENCE AND MORTALITY.

Below are shown the number of cases of notifiable diseases notified in Bolton in 1929 and the number of deaths resulting from each of these notifiable diseases.

### NOTIFIABLE DISEASES DURING THE YEAR 1929.

Disease.	Total Cases Notified.	Total Deaths
Smallpox ... ..	52	...
Scarlet Fever... ..	717	4
Diphtheria ... ..	73	8
Enteric Fever (including Paratyphoid) ... ..	12	1
Puerperal Fever ... ..	4	6
Puerperal Pyrexia ... ..	15	...
* Pneumonia ... ..	200	263
Erysipelas ... ..	97	5
Ophthalmia Neonatorum ... ..	11	...
Encephalitis Lethargica ... ..	2	5
Cerebro-spinal Fever ... ..	1	...
Acute Poliomyelitis ... ..	1	...

\* The cases notified are Acute Primary and Acute Influenzal, but the deaths include all forms of Pneumonia.

In order to compare different areas as regards the incidence of infectious disease we make use of the notification rate for each disease.

The notification rate for any infectious disease in any given area is the number of cases of such disease notified per thousand inhabitants.

For purposes of comparison we give below the notification rates for Bolton and for England and Wales during 1929.

#### NOTIFICATION RATES IN 1929.

				Bolton.		England and Wales.
Smallpox	...	...	...	·28	...	·28
Scarlet Fever	...	...	...	3·95	...	3·05
Diphtheria	...	...	...	·40	...	1·59
Enteric Fever	...	...	...	·06	...	·07
Puerperal Fever	...	...	...	·02	...	·06
Puerperal Pyrexia	...	...	...	·08	...	·14
Erysipelas	...	...	...	·53	...	·45

It will be seen that, with the exception of scarlet fever, erysipelas and smallpox, the notification rates for Bolton are below those for England and Wales.

#### Smallpox.

52 cases of smallpox occurred in Bolton in 1929.

In connexion with these cases all the measures prescribed in the Ministry of Health's "Memorandum on the steps to be taken by Sanitary Authorities on the occurrence of smallpox" were strictly observed.

The first case of smallpox was found on the 13th of April. The patient was a contact with smallpox on the "S. S. Tuscania." She made a good recovery, and, so far as could be discovered, gave rise to no further cases.

On August 12th, two cases of smallpox were found. No other cases were discovered until October 12th; but I am of opinion that there were probably some very mild and unrecognised cases which linked the August cases with those which occurred in October and subsequently.

The condition as regards vaccination of those attacked by smallpox was as follows:—

Successfully vaccinated in infancy	...	18
Successfully revaccinated...	...	none
Unvaccinated	...	32
Doubtful	...	2

Amongst the patients who had been successfully vaccinated in infancy there were none under the age of 20 years. Amongst the patients who had never been vaccinated 24 were under 20 years of age. Can anyone doubt that vaccination protects against smallpox?

The two cases noted above as doubtful were said to have been vaccinated in infancy, but no vaccination marks could be detected.

The age and sex distribution of the persons attacked by smallpox is as follows:—

NOTIFICATIONS—AGE AND SEX DISTRIBUTION.

Age.	Sex.		Total.
	Males.	Females.	
under 1 year	...	1	1
1—2 years	1	...	1
2—3 "	...	...	...
3—4 "	...	2	2
4—5 "	...	...	...
5—10 "	...	4	4
10—15 "	3	5	8
15—20 "	4	4	8
20—35 "	7	6	13
35—45 "	...	5	5
45—65 "	4	3	7
65 and over	2	1	3
Total	21	31	52

WARD DISTRIBUTION OF CASES.

West—2; Halliwell—4; Bradford—3; Derby—1; East 2;  
Church—9; Tonge—28; Smithills—1; Hulton—2.

All the cases were admitted to hospital.

32 cases were treated at the Drinkwater Park Hospital of the Salford Corporation, two cases at Clayton Vale Hospital, Manchester, and 20 cases at the Bolton Borough Hospital at Deane. The two cases sent to Clayton Vale Hospital were transferred to our own hospital as soon as arrangements were ready for the reception of smallpox patients in our own hospital.

One of our smallpox patients died at the Drinkwater Park Hospital. This patient was 74 years old, was feeble and infirm and I do not think that his death was even accelerated by smallpox.

All the other patients made a complete recovery and were discharged in excellent health.

Our success in staying the progress of the epidemic was mainly due to the willingness of contacts to be vaccinated. The readiness in nearly every case of patients, relatives, and other contacts to help the public health authority was extremely gratifying and I am pleased to have this opportunity of expressing our appreciation.

The last patient was discharged from hospital on March 19th, 1930 and since that date we have until now (12-5-30) remained free from smallpox.

No useful purpose would be served by a detailed statement of all the extra work which this epidemic entailed. That it did entail an enormous amount of work will be obvious from the fact that in connexion with the outbreak our inspectors paid a total of 8608 visits, these visits being mainly visits to contacts. I cannot speak too highly of the energy and ability shown by the Sanitary Inspectors in searching out and supervising those who had been in contact with smallpox cases.

The importance of getting smallpox contacts vaccinated at the earliest moment possible cannot be too strongly emphasized. If vaccination is to give protection against smallpox it must be done during the first three days after the infection has occurred. If done later, and even if perfectly successful, smallpox may and often does supervene. Vaccination and smallpox can run their courses side by side in the same patient without influencing each other. It is important to emphasize this as many people believe that once vaccination has begun to take, the patient cannot develop smallpox.

As it is in most cases impossible to be sure of the exact time of infection it is now the universal practice to keep all contacts, whether vaccinated or not, under observation for the full incubation period which it is now known may be as long as 21 days.

I desire once more to express my appreciation of the courtesy of Dr. J. J. Butterworth, Medical Officer of Health to the Lancashire County Authority, in giving most readily his valuable assistance in dealing with doubtful cases of smallpox. Dr. Butterworth has more experience of the modern type of the disease than any other person in the North of England.

### Scarlet Fever.

Scarlet fever prevailed throughout the whole of 1929 in moderate epidemic form in Bolton.

A noticeable feature of the epidemic was the unusually large percentage of adults attacked by the disease. This characteristic has been observed all over the country.

717 cases of scarlet fever were notified and of these 410 were admitted to our Fever Hospital.

There were 4 deaths from scarlet fever in 1929. This includes one patient who suffered both from scarlet fever and diphtheria. One of the deaths took place in hospital and three outside.

Most of the cases were mild. All cases which could not be described as mild received scarlet fever antitoxin, and in every case with the most striking benefit.

The number of cases of scarlet fever notified in Bolton in each year since 1920 were as follows :

Year.	No. of cases notified.		
1920	...	...	541
1921	...	...	591
1922	...	...	453
1923	...	..	642
1924	...	...	269
1925	...	...	232
1926	...	...	245
1927	...	...	276
1928	...	...	840
1929	...	...	717

From this table it is apparent that considerable pressure has been put on our fever hospital during 1928 and 1929.

The following table shows the Ward distribution of all cases of scarlet fever notified in Bolton during 1929. The accuracy of the notification rate per thousand inhabitants depends, of course, on the correctness of the estimates of the Ward populations. Our estimates are as correct as the data we possess enable us to make them. The correct Ward populations, as also the population of the Borough, will not be known until the results of the 1931 census are available.

**Scarlet Fever Notifications—1929. Ward Distribution.**

Ward.	Estimated Population.	No. of cases Notified.	Rate per 1000 of population.
West	25891	107	4.1
Halliwell	21807	96	4.4
Bradford	18276	73	3.9
Derby	18573	79	4.2
East	8921	54	6.0
Rumworth	9953	35	3.5
Church	8043	32	3.9
North	7069	42	5.9
Exchange	3460	3	.8
Great Lever	13100	46	3.5
Tonge	10985	38	3.4
Astley Bridge	8608	23	2.6
Smithills	7714	26	3.3
Hulton	6643	12	1.8
Deane-cum-Lostock	5208	23	4.4
Darcy Lever-cum- Brightmet	4080	15	3.6
Heaton	3169	13	4.1
Total ...	181500	717	3.9

**Encephalitis Lethargica.**

The prevalence in Bolton in 1929 of this terrible disease showed a decrease as compared with previous years.

Two cases were notified as suffering from encephalitis lethargica and 5 (none of whom had been notified) were certified as having died of this disease.

The total number of cases, therefore, known to have been attacked by this disease in Bolton in 1929 was 7. This compares with 16 in 1928.

Medical science still remains practically helpless as regards both the prevention and the treatment of this terrible disease. Fortunately the disease is diminishing fairly rapidly both as regards the number of persons attacked and as regards the severity and lasting effects of the disease in those attacked.



### Ophthalmia Neonatorum.

I am glad to be able to report that the number of cases of ophthalmia neonatorum notified in 1929 was only half the number notified in 1928. In 1928 there were notified 22 cases and in 1929 the notifications numbered 11.

Particulars of the cases notified in 1929 are as follows :

CASES			VISION.			Deaths
Notified	Treated		Un- impair'd	Impaired	Total Blind- ness	
	At home	In hospital				
11	7	1 as out-patient 3 as in-patients	11	...	...	...

It will be seen that there were no deaths and there was no impairment of vision.

Unless the infant is in an institution the home is visited every day until no further treatment is needed.

7 of the above cases were visited at their homes by the ophthalmic surgeon.

There is an arrangement with the Bolton Infirmary by which in the case of ophthalmia neonatorum both mother and child are admitted to the Infirmary. The Ophthalmic Surgeon is authorized by this department to admit any case if he judges it desirable to do so and the Public Health Authority undertakes financial responsibility for the treatment of mother and child.

### Puerperal Fever.

There were 8 cases of puerperal sepsis in Bolton in 1929 and of these 6 died. 3 died in Townleys Hospital, 1 died in the Bolton Infirmary, 1 died in a nursing home in Manchester and 1 died at home.

Maternal deaths are treated more fully in the Maternity and Child Welfare section of this report.

The following table gives in a form asked for by the Ministry of Health, detailed information regarding all cases of notifiable infectious disease in Bolton during 1929.

# NOTIFIABLE DISEASES DURING THE YEAR 1929.

Disease.	Cases Notified.																Deaths.															
	Cases admitted to Borough and other Hospitals.																Under 1															
	Under 1	1 to 2	2 to 3	3 to 4	4 to 5	5 to 10	10 to 15	15 to 20	20 to 35	35 to 45	45 to 65	65 and over	At all Ages.	Under 1	1 to 2	2 to 3	3 to 4	4 to 5	5 to 10	10 to 15	15 to 20	20 to 35	35 to 45	45 to 65	65 and over	At all Ages.						
Smallpox	1	1	2	56	4	8	13	5	7	3	52	52	...	...	...	...	...	...	...	...	...	...	...	...	...	...						
Scarlet Fever	1	8	25	33	353	131	49	55	3	3	717	410	...	...	2	...	1	...	1	...	...	...	...	...	...	...						
Diphtheria	...	1	7	4	7	38	3	4	3	...	73	54	...	...	...	2	1	...	...	...	2	...	...	...	1	...						
Enteric Fever...	...	...	1	1	1	1	5	2	1	1	12	9	...	...	...	...	...	...	...	...	...	...	...	...	...	...						
Puerperal Fever	...	...	...	...	...	...	4	...	...	...	4	2	...	...	...	...	...	...	...	...	...	4	2	...	...	...						
Puerperal Pyrexia	...	...	...	...	...	...	14	1	...	...	15	7	...	...	...	...	...	...	...	...	...	...	...	...	...	...						
*Pneumonia	...	...	...	...	...	...	8	22	13	28	25	...	...	...	62	46	17	3	5	7	4	1	10	20	55	33	263					
Erysipelas	21	22	15	8	7	21	10	5	13	41	10	97	...	...	...	...	...	...	...	...	...	...	...	...	...	...						
Ophthalmia Neonatorum	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...						
Encephalitis Lethargica	...	...	...	...	...	...	...	...	...	...	...	...	3	...	...	...	...	...	...	...	...	2	...	...	...	...						
Cerebro-spinal Fever	...	...	1	...	...	...	...	...	...	...	...	...	1	...	...	...	...	...	...	...	...	...	...	...	2	...						
Acute Poliomyelitis	...	...	...	1	...	...	...	...	...	...	...	1	...	...	...	...	...	...	...	...	...	...	...	...	...	...						

\* The cases notified are Acute Primary and Acute Influenzal, but the deaths include all forms of pneumonia.

How has Bolton fared as regards notifiable infectious disease as compared with other Lancashire towns? This is shown below :

**Notification Rates per 1,000 Population in 1929 in Chief Lancashire Manufacturing Towns.**

(FIGURES COMPILED FROM THE REGISTRAR GENERAL'S  
QUARTERLY RETURNS).

	Total Rate	Scarlet Fever	Diph- theria	Enteric Fever	Puerperal Fever	Puerperal Pyrexia	Ophthal- mia Neona- torum
Preston ... ..	3·06	1·87	1·00	·00	·02	·14	·03
Warrington ... ..	3·76	1·64	1·73	·01	·03	·20	·15
Rochdale ... ..	3·93	1·62	1·94	·03	·13	·12	·09
<b>Bolton ... ..</b>	<b>4·57</b>	<b>3·95</b>	<b>·40</b>	<b>·06</b>	<b>·02</b>	<b>·08</b>	<b>·06</b>
Manchester ... ..	4·85	3·14	1·18	·06	·16	·11	·20
Bury ... ..	5·49	2·12	2·93	·07	·10	·08	·19
Salford ... ..	5·74	2·62	2·81	·03	·07	·07	·14
Burnley ... ..	6·34	4·69	1·36	·06	·06	·11	·06
Barrow-in-Furness...	6·45	5·76	·47	·03	·03	·03	·13
Oldham ... ..	6·58	4·66	1·54	·04	·01	·18	·15
St. Helens ... ..	6·68	4·57	1·53	·01	·13	·23	·21
Wigan ... ..	7·09	6·33	·48	·05	·05	·09	·09
Bootle ... ..	7·86	5·68	1·82	·06	·04	·12	·14
Blackburn ... ..	7·92	6·01	1·58	·04	·07	·12	·10
Liverpool... ..	8·07	4·54	2·65	·02	·05	·15	·66

Note—The Total Rate is the total of the above six notifiable diseases.

The rates have been calculated on the adjusted population at the middle of 1928.

**INFECTIOUS DISEASES NOT NOTIFIABLE.**

**Influenza.**

208 Bolton residents died of influenza in 1929. Preventive medicine is still quite powerless to prevent the spread of influenza in epidemic form, and the treatment of severe cases remains very unsatisfactory.

Bolton's influenza deaths from 1917 to 1929 are shown below :—

	1917	1918	1919	1920	1921	1922	1923	1924	1925	1926	1927	1928	1929
Deaths	19	367	301	70	45	122	94	88	98	68	147	55	208

It will be seen from the above table that 1929 was the worst year for influenza since 1919.

Medical science has made no progress whatever in discovering the causes that bring about epidemics of influenza. Public Health work has no knowledge of any means of preventing or mitigating outbreaks of influenza.

### Whooping Cough.

Whooping cough caused 85 deaths in Bolton in 1929, making 1929 one of the worst years for whooping cough that Bolton has ever known. In 1896 there were 100 deaths, 135 in 1904, and 85 in 1918. None of the other years since 1891 caused as many as 85 deaths from whooping cough and in most of the years the number was very much smaller. The number of deaths from whooping cough for each year since 1920 was as follows:

Year.	Bolton.		England & Wales.
	No. of Deaths.	Rate per 1,000	Rate per 1,000
1920	34	·19	·18
1921	25	·13	·12
1922	13	·07	·16
1923	11	·06	·10
1924	28	·15	·10
1925	32	·17	·15
1926	37	·20	·10
1927	1	·00	·09
1928	9	·04	·07
1929	85	·46	·15

**Measles.**

Measles was the cause of death in 11 cases in 1929, a figure below the average of the last ten years.

It will be seen from the following table that as regards measles, the death-rate for Bolton compares favourably with that of England and Wales.

Year.	Bolton.		England & Wales.
	No. of Deaths.	Rate per 1,000	Rate per 1,000
1920	27	'27	'27
1921	5	'02	'05
1922	63	'34	'14
1923	4	'02	'13
1924	12	'06	'12
1925	18	'09	'13
1926	16	'09	'09
1927	21	'11	'09
1928	17	'09	'11
1929	11	'06	'08

**Examination of Pathological and Bacteriological Specimens.**

These are examined at the Borough Analyst's Laboratory of the County Borough of Bolton. Occasional specimens for which provision is not made in our own laboratory are sent to the Public Health Laboratory, York Place, Manchester.

The examinations made in our own laboratory during 1929 were as follows :—

	Total	Positive	Negative	Doubtful
Sputum (for B. Tuberculosis) ...	1072	345	727	—
Diphtheria (Throat Swabs) ...	273	41	227	5
Enteric Fever (Agglutination test)	27	7	20	—

At the Public Health Laboratory, Manchester, the following examinations were made :—

	Total.	Positive.	Negative
Milk (Inoculation test for B. Tuberculosis)	12	7	5
Enteric Fever (Agglutination test) ...	3	—	3
Urine (for B. Tuberculosis) ...	1	—	1
Cerebro-spinal Fluid... ..	2	—	2
Blood Urea ... ..	1		

#### Diphtheria Antitoxin.

Antitoxin can be had day and night by the medical practitioners of the town. During 1929 there were supplied 63 phials, each of 8,000 units.

#### Insulin.

Since the 16th of September, 1924, the Bolton Public Health Department has supplied insulin free to uninsured patients suffering from diabetes where the income of such patients made it impossible for them to purchase the drug. This has proved a great boon to many sufferers. During 1929, 149 bottles of insulin each containing 100 units, were supplied free, and 467 bottles were supplied at a cheap rate.

#### Disinfection.

There is a fully equipped disinfecting station at School Hill, near the centre of the town. Two motor vans are attached to this station. During 1929 the following work was done by the disinfecting station :

Houses disinfected	...	...	...	1075
Articles of clothing, etc., disinfected	...	...	...	5846
Articles of bedding, etc., destroyed	...	...	...	68

#### Cleansing of Verminous Persons.

Arrangements have been made for the bathing of such persons at one of the Corporation's bathing establishments. Clothing is disinfected or destroyed at the School Hill Disinfecting Station.

## WORK OF THE BOROUGH ISOLATION HOSPITALS.

### Scarlet Fever.

As in 1928 so in 1929 the hospital was kept very busy with cases of scarlet fever.

410 cases were admitted to the scarlet fever wards in 1929. On the 1st of January, 1929, there were remaining in hospital 49 scarlet fever patients. The total number of such patients during 1929 was therefore 459.

There were two deaths. Both cases were very ill when admitted, and had been ill for some time before admission.

Of the patients admitted to the scarlet fever ward :

- 6 had scarlet fever and diphtheria.
- 5 had scarlet fever and measles.
- 1 had scarlet fever and pertussis.
- 1 had simple tonsillitis only.
- 8 showed at the time of admission, and after, no evidence of any disease.

The great majority of the cases were mild, and there were few complications. The following complications occurred :—

- 8 cases of otorrhœa.
- 6 cases of albuminuria.
- 1 case of cellulitis of the neck.

### Return Cases.

If a patient goes to hospital with scarlet fever and if within four weeks of the return home of such patient another case of scarlet fever occurs in the same house, then this case is called a "return case."

4 "return cases" occurred in 1929 in connexion with cases treated at the Borough Hospital. For the number of cases treated in 1929, this is a very small number of "return cases."

It is impossible to prevent "return cases." Some cases that are discharged from hospital are carriers, and remain carriers for a longer or shorter period, the length of which it is impossible to determine. It is quite impossible to say at the time of discharge whether a case is capable of infecting others or not as the germ which causes scarlet fever has not been identified.

I desire to emphasize the fact that it is impossible to guarantee in the case of any patient at the time of discharge that such patient is not capable of infecting others.



### **Period of stay in Hospital.**

Very few cases of scarlet fever now need 6 weeks in hospital. Taking the country generally, the average period in hospital of scarlet fever cases is under five weeks. The long periods of hospital treatment for severe cases have now been greatly shortened. This is due to the fact that we have in scarlet fever antitoxin a remedy which it is no exaggeration to call marvellous. All cases of scarlet fever admitted to our hospital which are not quite definitely mild cases receive scarlet fever antitoxin.

### **Diphtheria.**

57 cases were admitted as diphtheria. Of these cases—

- 2 had diphtheria and scarlet fever.
- 1 had follicular tonsillitis.
- 1 had simple laryngitis.
- 1 had pneumonia.

One diphtheria case had the operation of tracheotomy and died. This was the only case requiring tracheotomy.

4 cases of diphtheria died of toxæmia. If parents would be more prompt in sending for the doctor for every case of sore throat in a child there would be very few deaths from diphtheria.

Cases of diphtheria are admitted to hospital as promptly as possible. The matron of the fever hospital has full authority to admit diphtheria cases on the request of a medical man.

Cases of diphtheria which end fatally die because antitoxin is not given sufficiently early in the disease. If antitoxin were given during the first two days of an attack of diphtheria the disease would have practically no mortality at all.

The moral, which I make no apology for repeating once more, is: when your child has a sore throat, send for the doctor. There is for diphtheria no home treatment which can have any effect other than to render more likely the prospect of a fatal issue.

### **Enteric Fever.**

Nine cases of enteric (typhoid) fever were admitted to hospital. One case was of a severe type. All the cases made a perfect recovery.

### **Encephalitis Lethargica.**

One severe case of this disease was admitted to hospital. The patient died during the acute stage.



### **Smallpox.**

During the small epidemic of smallpox that occurred in Bolton in the latter part of 1929 the beds available for the use of Bolton patients in smallpox hospitals were soon filled and it became necessary to make further provision.

With the consent of the Ministry of Health, the Eastern Hospital was devoted to smallpox, the tuberculosis and diphtheria patients in this hospital being transferred to the old wards, known as Wards 1 and 2 in the Western hospital grounds. All members of the hospitals' staff who had not been recently and successfully vaccinated were vaccinated or revaccinated, and I have pleasure in recording the fact that no case of smallpox infection occurred in any member of the hospital's staff or in any person visiting our isolation hospitals for any purpose whatsoever.

21 smallpox patients were admitted. They could not all be described as very mild. Some of them were moderately severe cases. All, however, made an excellent recovery and the hospital staff did what it could to make their isolation as tolerable as possible. The smallpox patients gave no trouble and we were sorry to see them go.

One of the lessons of our epidemic was this : that the isolation needed for smallpox as we know it in these times differs in no respect whatever from the isolation required for scarlet fever.

### **Hospital Staff.**

The reception of smallpox patients threw a very great strain on the hospital staff, especially on the matron, to whose energy and ability was mainly due, the success with which the emergency was met. I have the greatest pleasure in recording my appreciation of the matron's excellent services at this time and throughout the whole year.

The whole staff, nursing and domestic, co-operated cheerfully, loyally, and ably. The sister who took charge of the smallpox wards did extremely well. It would not have been possible to get a better sister anywhere.

I have pleasure in placing on record once more my appreciation of the loyal and able service of the whole hospital staff.

With one exception, illness in members of the hospital staff during 1929 was confined to minor ailments such as influenza, common colds, etc. The one exception which I record with much regret was that of one of the maids, an excellent girl, who died somewhat suddenly of purpura hæmorrhagica.

**Borough Isolation Hospitals.**

No. of Patients.	No. of patients suffering from the following Diseases.						Total.
	Scarlet Fever.	Enteric Fever.	Diphtheria.	Pulmonary Tuberculosis.	Other Tuberculous Diseases.	Other Diseases.	
Remaining, Dec. 31st, 1928	49	...	9	18	...	1	77
Admitted in 1929 ... ..	410	9	54	32	...	26	531
Total No. treated, 1929 ...	459	9	63	50	...	27	608
Discharged in 1929 ... ..	433	9	49	27	...	6	524
Died in 1929 ... ..	2	...	4	6	...	1	13
Remaining, Dec. 31st, 1929	24	...	10	17	...	20	71

SECTION VII.



Tuberculosis.



## TUBERCULOSIS.

The Bolton death-rate from tuberculosis in all its forms was '79 per thousand inhabitants in 1929.

The lowest figure ever recorded for Bolton was '77 for 1928.

The increase for 1929 is negligible.

When we remember, what a disastrous period as regards mortality in Bolton, and especially mortality from respiratory diseases, the first quarter of 1929 was, it is obvious that as a cause of death tuberculosis has continued to grow weaker and that there has been no set-back in the staying of the ravages of this disease.

The death-rate from pulmonary tuberculosis in Bolton in 1929 was '66, the same as in 1928.

The following table gives the death-rate from tuberculosis of all forms in the Lancashire County Boroughs in 1929 :—

Barrow-in-Furness	...	'743	Wigan	...	...	'987
Blackpool	...	'750	St. Helens	...	...	1'05
BOLTON	...	'798	Bootle	...	...	1'27
Bury	...	'809	Warrington...	...	...	1'30
Rochdale	...	'850	Salford	...	...	1'32
Preston	...	'880	Manchester...	...	...	1'40
Burnley	...	'938	Liverpool	...	...	1'46

### New Cases.

The number of new cases notified in 1929 was :—

Pulmonary	...	...	...	...	...	154
Non-pulmonary	...	...	...	...	...	77
Total						231

This compares with a total of 194 in 1928. I am sure the increase in notifications is not due to any real increase in the incidence of the disease.

Age and Sex Distribution of Notified Cases.

PULMONARY TUBERCULOSIS.

Ages.	0 to 1	1 to 5	5 to 10	10 to 15	15 to 20	20 to 25	25 to 35	35 to 45	45 to 55	55 to 65	65 and upwards.	TOTAL.
Males ...	...	...	3	...	6	13	12	16	19	3	5	77
Females ...	...	1	...	1	9	16	25	13	5	7	...	77

NON-PULMONARY TUBERCULOSIS.

Ages.	0 to 1	1 to 5	5 to 10	10 to 15	15 to 20	20 to 25	25 to 35	35 to 45	45 to 55	55 to 65	65 and upwards.	TOTAL.
Males ...	1	3	9	10	4	4	4	4	2	1	1	43
Females ...	...	2	9	4	4	3	7	2	1	2	...	34

DEATHS FROM TUBERCULOSIS.

145 Bolton residents were certified as having died of tuberculosis during 1929. This compares with 140 in 1928.

61 of these deaths took place in institutions as follows :—

6 died in the Bolton Borough Hospital.

42 died in Townleys Hospital.

6 died in the Bolton Infirmary.

4 died in the Wilkinson Sanatorium.

1 died in the County Mental Hospital, Whittingham.

1 died in the County Mental Hospital, Eccleston, Whiston.

1 died in the Vale of Clwyd Sanatorium, Llanbedr.

Five of the deaths were of casals in Townleys Hospital. Technically they are assigned to Bolton, but they were not in any real sense of the word resident.

The age and sex distribution of those who died of tuberculosis are given in these tables :

PULMONARY TUBERCULOSIS.

Sex.	Total	AGES.								
		Under 5	5 to 10	10 to 15	15 to 20	20 to 35	35 to 45	45 to 55	55 to 65	65 and upwards
Males ... ..	60	...	1	...	3	18	9	14	8	7
Females... ..	61	1	...	...	8	33	11	3	5	...
Total ... ..	121	1	1	...	11	51	20	17	13	7

NON-PULMONARY TUBERCULOSIS.

Sex.	Total	AGES.								
		Under 5	5 to 10	10 to 15	15 to 20	20 to 35	35 to 45	45 to 55	55 to 65	65 and upwards
Males ... ..	14	1	2	2	...	4	1	2	1	1
Females... ..	10	2	1	1	...	3	1	1	1	...
Total ... ..	24	3	3	3	...	7	2	3	2	1

In 31 cases the disease had not been notified during life. Most of these cases died in institutions and the diagnosis was made after death.

PUBLIC HEALTH (PREVENTION OF TUBERCULOSIS) REGULATIONS, 1925.

No action was taken under these Regulations.

Public Health Act, 1925, Section 62.

No action was taken under the above Section during 1929.

Cases of tuberculosis of the skin are treated at the Manchester and Salford Skin Hospital, and payment for the treatment of such cases, either as in or out-patients, is made by the Bolton Public Health Department.

Cases of pulmonary tuberculosis requiring institutional treatment receive it very promptly. It is rare for such patients to be kept waiting more than a week.

167 persons applied for treatment in 1929. 121 of these were cases of pulmonary tuberculosis and 46 of non-pulmonary tuberculosis.

The treatment given was as follows :

Residential treatment ... ..	98
Domiciliary treatment ... ..	44
Out-patient treatment ... ..	18
Declined residential treatment...	4
On waiting list at close of 1929	1
Cancelled ... ..	2
Died before admission ... ..	—

No patient desiring residential treatment was refused such treatment.

#### TUBERCULOSIS DISPENSARY.

The dispensary is not a place for the general treatment of tuberculosis. Special treatments such as tuberculin treatment are given. Any new treatment for which a specific effect on tuberculosis is claimed is given a trial if the evidence in favour of such treatment appears to justify a trial. Up to now all such treatments with the exception of tuberculin have failed to justify the claims made for them.

The dispensary is open every week-day (except Saturday) from 9 a.m. to 12 noon and on Wednesday from 2 p.m. to 5 p.m. The work done at the dispensary is shown by the following figures:—

Total attendances ... ..	1656
Total number of patients sent for consultation ...	235

The results of these consultations were as follows :

Number found to have pulmonary tuberculosis ...	75
Number found to have non-pulmonary tuberculosis...	18
Number of cases kept under observation for suspected pulmonary tuberculosis ... ..	—
Number in whom no evidence of tuberculosis was found ... ..	142

15 patients had tuberculin treatment. They made a total of 319 attendances.



## TREATMENT OF TUBERCULOSIS.

For suitable cases, institutional treatment is given as follows :

30 beds (and more if needed) at the Wilkinson Sanatorium.  
24 beds at the Borough Hospital.

All these beds are for pulmonary cases.

Cases of surgical tuberculosis requiring institutional treatment are sent to the Bolton Infirmary and to the Liverpool Children's Hospital at Heswall in Cheshire, where we have a call on 6 beds.

We need more beds for surgical tuberculosis in children.

The following table summarizes the residential treatment given during 1929 :

ACCOMMODATION PROVIDED BY LOCAL AUTHORITY WITH NUMBER OF PERSONS ADMITTED FOR TREATMENT DURING THE YEAR 1929.

INSTITUTION.	Beds.	Treated:			Under Treatment 31st Dec. 1929.
		Total	Insured	Un-insu'd	
Wilkinson Sanatorium ... ..	30	64	54	10	29
Borough Hospital ... ..	24	32	23	9	17
*Heswall ... ..	6	2	...	2	6
*Infirmary ... ..	...	8	2	6	1
*Manchester and Salford Hospital for Skin Diseases ... ..	...	2	...	2	...
*Heatherwood Hospital, Ascot ... ..	...	1	...	1	2
*Ancoats Hospital, Manchester ... ..	...	1	...	1	...

\* Paid for per user.

### Manchester and Salford Skin Hospital.

34 patients suffering from tuberculosis of the skin were referred for advice and treatment to the Manchester and Salford Skin Hospital.

Two of these patients were admitted for in-patient treatment and the total period these two cases were in hospital was 105 days.

Of the 32 patients who attended as out-patients, 8 received sunlight treatment, and 24 received various other treatments. The total number of attendances made by the out-patients was 1018.

The Bolton Public Health Department pays for the treatment of all patients referred by it to the Manchester and Salford Skin Hospital.

In the case of nine cases who received out-patient treatment, travelling expenses were defrayed by the Bolton Public Health Department, as the patients' means did not permit of their bearing this cost themselves.

#### ASSISTANCE GIVEN TO NECESSITOUS TUBERCULOUS PATIENTS.

1. Total number of patients assisted	...	...	141
2. Average time receiving assistance	...	4 months	
3. Amount of milk given	...	...	17,523 pints
4. Malt and oil given	...	...	166 lbs.

As regards deaths from tuberculosis—how has Bolton fared as compared with the country as a whole ? The answer will be found in the following table.

#### ANNUAL DEATH-RATE FROM TUBERCULOSIS (ALL FORMS) BOLTON AND ENGLAND AND WALES, 1901-1929,

Rate per 1000 living.			Rate per 1000 living.		
Year.	Bolton.	England and Wales.	Year.	Bolton.	England and Wales
1901	1·94	1·80	1916	1·43	1·52
1902	1·81	1·74	1917	1·53	1·60
1903	1·81	1·74	1918	1·57	1·66
1904	1·79	1·78	1919	1·18	1·28
1905	1·61	1·63	1920	1·00	1·13
1906	1·73	1·65	1921	1·08	1·12
1907	1·45	1·61	1922	·97	1·12
1908	1·75	1·59	1923	1·11	1·06
1909	1·54	1·53	1924	1·12	1·05
1910	1·41	1·43	1925	1·02	1·03
1911	1·40	1·46	1926	·92	·96
1912	1·29	1·37	1927	1·02	·97
1913	1·15	1·35	1928	·77	·93
1914	1·19	1·36	1929	·79	·96
1915	1·32	1·51			

SECTION VIII.

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Venereal Diseases.



### Venereal Diseases.

As regards the number of patients attending these clinics and the number of attendances made, the year 1929 did not differ materially from the preceding year.

The work of these clinics is conducted without publicity and in such a manner as to secure to patients the greatest privacy possible. The general public fail to realize, therefore, the immense amount of work done by these clinics and their very great contribution to the health of the community. This work will relieve future generations to a very great extent of a burden which has borne heavily on the community in the past.

The numbers of patients who attended the clinics in 1929 were as follows:—

Men	...	1019	Women	...	309
The diseases from which they suffered were :—					
			Men	Women	Total
Syphilis	...	...	268	161	429
Soft Sore	...	...	—	—	—
Gonorrhœa	...	...	613	64	677
Non-venereal	...	...	138	84	222
			<hr/> 1019	<hr/> 309	<hr/> 1328

The above figures give the total number of patients who attended the clinics during 1929. The numbers of new patients who came under treatment for the first time in 1929 were as follows :—

			Men	Women
Syphilis...	...	...	64	26
Soft Chancre	...	...	—	—
Gonorrhœa	...	...	244	22
Non-venereal	...	...	127	71
			<hr/> 435	<hr/> 119

### Attendances.

The total numbers of attendances made by patients at the clinics were :

Men	...	10436	Women	...	2739
-----	-----	-------	-------	-----	------

483 specimens of blood were taken for the Wassermann test. These are examined at the Public Health Laboratory, Manchester.

Patients received 2008 intravenous and intramuscular injections.

The times and place where the clinics are held are announced by public notices in many places in the town. These notices are of a permanent character, being enamelled on iron plates.

Clinics are held at the Treatment Centre established in the Public Health Offices at the following times:—

Monday ...	...	...	...	7-0 p.m.	} Males.
Tuesday ...	...	...	...	7-0 p.m.	
Wednesday ...	...	...	...	7-0 p.m.	
Thursday ...	...	...	...	7-0 p.m.	} Females.
Saturday ...	...	...	...	10-30 a.m.	

Patients who are unable to attend the evening clinics can receive treatment during the day by arrangement. Every case which calls for the first time at the Public Health Office receives whatever treatment may be necessary the same day.

Irrigation of cases of gonorrhœa is carried out at the following times :—

FOR MALES.

Monday ...	...	...	...	10 a.m. and 7 p.m.
Tuesday ...	...	...	...	7 p.m.
Wednesday ...	...	...	...	10 a.m. and 7 p.m.
Friday ...	...	...	...	10 a.m. and 7 p.m.

FOR FEMALES.

Tuesday ...	...	...	...	10 a.m.
Wednesday ...	...	...	...	2-30 p.m.
Thursday ...	...	...	...	2-30 p.m.
Friday ...	...	...	...	2-30 p.m.

The following table shows the attendances and treatment received by Bolton patients at Treatment Centres in other towns.

	Treatment Centre			
	Manchester	Bury	Kingston-upon-Hull	Salford
No. of Patients ...	28	2	1	11
(a) Syphilis ...	13	1	...	3
(b) Gonorrhœa ...	6	1	1	5
(c) Conditions other than Venereal ...	9	...	...	3
Attendances ...	320	29	7	235
Doses of Salvarsan substitutes given	64	9	...	25
Tests—				
Wassermann ...	34	...	...	...
Gonorrhœa ...	6	...	...	...
Spirochetes ...	7	...	...	...
In-patient days ...	...	...	...	...

The tables on pages 102 and 103 show the work carried out at the Bolton Treatment Centre.

10 medical men applied during 1929 for arsenobenzene compounds and 224 doses were supplied to them for use in their private practices.

233 specimens of blood and 22 smears taken by private practitioners were sent for examination to the Public Health Laboratory, Manchester.

RETURN RELATING TO ALL PERSONS WHO WERE TREATED AT THE TREATMENT CENTRE AT BOLTON PUBLIC HEALTH OFFICES DURING THE YEAR ENDED THE 31ST DECEMBER, 1929.

	Syphilis.		Soft Chancere.		Gonorrhoea.		Conditions other than Venereal		TOTAL.	
	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.
1. Number of cases which—										
(a) at the beginning of the year under report were under treatment or observation for ... ..	192	126	...	...	350	40	11	13	553	179
(b) had been marked off in a previous year as having ceased to attend or as transferred to other Centres, and which returned to the Treatment Centre during the year under report suffering from the same infection ... ..	12	9	...	...	19	2	...	...	31	11
TOTAL—Items 1 (a) and 1 (b) ... ..	204	135	...	...	369	42	11	13	584	190
2 (a). Number of cases dealt with at the Treatment Centre during the year for the first time with infections of—										
1. less than one year's standing ... ..	50	26	...	...	220	21	127	71	397	118
2. more than one year's standing ... ..	14	...	...	...	24	1	...	...	38	1
TOTAL*—Items 1 (a), 1 (b) and 2 (a) ... ..	268	161	...	...	613	64	138	84	1019	309
2 (b). Number of cases included in item 2 (a) known to have received previous treatment at other Centres for the same infection ... ..	5	3	...	...	12	...	...	...	17	3
3. Number of cases which ceased to attend—										
(a) before completing the first course of treatment for	44	20	...	...	162	14	...	...	206	34
(b) after one or more courses but before completion of treatment for ... ..	18	17	...	...	...	...	...	...	18	17
(c) after completion of treatment, but before final tests as to cure of ... ..	29	13	...	...	71	8	...	...	100	21
4. Number of cases transferred to other Treatment Centres after treatment for ... ..	6	1	...	...	3	1	...	...	9	2
5. Number of cases discharged after completion of treatment and observation for ... ..	13	5	...	...	40	5	115	70	168	80
6. Number of cases which, at the end of the year under report, were under treatment or observation for ... ..	153	105	...	...	337	36	23	14	518	155
TOTAL*—Items 3, 4, 5, and 6 ... ..	268	161	...	...	613	64	138	84	1019	309
7. Out-patient attendances—										
(a) For individual attention by the Medical Officer ... ..	2128	1405	...	...	3372	232	428	242	5928	1879
(b) For intermediate treatment, e.g., irrigation, dressings, etc. ... ..	67	27	...	...	4417	823	24	10	4508	860
TOTAL ATTENDANCES ... ..	2195	1432	...	...	7789	1055	452	252	10436	2739
8. Aggregate number of "In-patient Days" of treatment given to persons who were suffering from ... ..	...	...	...	...	...	...	...	...	...	...
9. Examinations of Pathological material:—										
(a) Specimens which were examined at, and by the Medical Officer of, the Treatment Centre ... ..	...	...	...	...	...	...	...	...	...	...
(b) Specimens from persons attending at the Treatment Centre which were sent for examination to an approved laboratory ... ..	...	...	...	...	...	...	...	...	...	...

\*The total of Items 1 (a), 1 (b) and 2 (a) in the vertical columns headed Syphilis, Soft Chancere and Gonorrhoea should agree with the corresponding total of Items 3, 4, 5, & 6.



STATEMENT SHOWING THE SERVICES RENDERED AT THE TREATMENT CENTRE DURING THE YEAR, CLASSIFIED ACCORDING TO THE AREAS IN WHICH THE PATIENTS RESIDED.

Name of County or County Borough.	Bolton C.B.	Lancs. C.C.	London City	Manchester City	Bradford City	Oldham C.B.	Stockport C.B.	Wigan C.B.	Bury C.B.	Chorley M.B.	Leek	TOTAL.
A. Number of cases from each area dealt with during the year <i>for the first time</i> and found to be suffering from :—												
Syphilis ... ..	52	36	1	...	...	...	...	...	...	1	...	90
Soft Chancre ... ..	...	...	...	...	...	...	...	...	...	...	...	...
Gonorrhœa ... ..	163	95	2	...	...	1	...	...	4	1	...	266
Conditions other than Venereal	137	58	...	...	1	...	1	...	1	...	...	198
<b>TOTAL</b> ... ..	352	189	3	...	1	1	1	...	5	2	...	554
B. Total number of attendances of all patients residing in each area ...	8253	4636	5	37	1	2	1	12	211	16	1	13175
C. Aggregate number of "In-patient days" of all patients residing in each area ... ..	...	...	...	...	...	...	...	...	...	...	...	...
D. Number of doses of arsenobenzene compounds given in the :—												
1. Out-patient Clinic	1163	823	...	13	...	...	...	...	9	...	...	2008
2. In-patient Dept.	...	...	...	...	...	...	...	...	...	...	...	...
to patients residing in each area.												

E. Give the names of arsenobenzene compounds used in the treatment of Syphilis and the usual initial and final doses.

For Males—'45 NAB. (initial dose) '60 NAB. (final dose).

For Females—'30 NAB. (initial dose) '45 NAB. (final dose). (See also F.)

F. State the amount and kind of treatment usually administered to a case of Syphilis of each of the types usually dealt with at the Treatment Centre.

For all sores, primary, etc., local treatment is given, Lotion Nigra, Pulv. Cal., and ZnO. etc. For the constitutional invasion we use NAB., Neo-salvarsan, Stabilarisan (intravenously) Sulfarsenol (subcutaneously) and Bismuth (intramuscularly). A course rarely consists of less than 12 injections. The further treatment of the case is determined by the clinical condition and blood reaction. Mercury is given throughout the course as grey powder given by the mouth.

G. State the nature of tests applied in deciding as to discharge of patients referred to in Item 5 on previous page.

In the case of Syphilis, patients have not been discharged until at least 4 blood tests at 3 to 6 monthly intervals without treatment have proved negative.

In the case of Gonorrhœa, patients are not discharged until they have been free for at least 6 months from all clinical evidence of gonorrhœal infection. If considered desirable, prostatic massage is done and smear examined.



SECTION IX.

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Maternity and Child Welfare.



## MATERNITY AND CHILD WELFARE.

### Births.

2580 living children were born to Bolton parents in 1929. Of these children 2498 were legitimate and 82 illegitimate. 266 infants under the age of twelve months died during the same year so that the infantile mortality was 103. This high infantile mortality is dealt with more fully in the section on vital statistics.

Of the illegitimate children 15 died, giving for these children a mortality of 182 per thousand.

Of the legitimate children 251 died, a mortality of 100 per thousand.

The number of births not notified was 67. Inquiry showed in every case that in none of these cases had there been any attempt at concealment of birth.

Bolton's birth-rate in 1929 was 14·2. The birth-rates for the past ten years were as follows:—

Year.	Birth-rate.	
	England & Wales.	Bolton.
1920	25·5	22·8
1921	22·4	21·0
1922	20·4	18·6
1923	19·7	17·5
1924	18·8	17·6
1925	18·3	16·3
1926	17·8	16·3
1927	16·6	15·1
1928	16·7	14·3
1929	16·3	14·2

### **Infantile Mortality.**

I regret to have to record for 1929 an infantile mortality of 103.

In 1928 the infantile mortality was 64, the lowest ever recorded for Bolton.

I am satisfied that the high infantile mortality of 1929 was due to causes which could not humanly speaking be controlled.

Of the 15 large towns of Lancashire nine had a lower infantile mortality than Bolton in 1929. In 1928 only one of these towns had a lower infantile mortality rate than Bolton.

Infantile mortality is dealt with in the section on vital statistics. It will be seen from the table in that section, showing the causes of death in 1929 of all infants who died in Bolton, what a heavy toll was exacted by whooping cough and pneumonia.

### **Maternal Deaths.**

Maternal deaths are due to diseases and accidents of pregnancy and parturition. The maternal death-rate for any area is the number of such deaths for a thousand live births.

As regards maternal deaths, 1929 was a very bad year for Bolton. We had 22 maternal deaths during 1929.

Of these maternal deaths :

5 occurred during pregnancy in its earlier stages.

17 died of conditions arising out of childbirth. Of these 17, five died of puerperal fever.

Bolton's maternal death-rate for 1929 was 8·52. The corresponding figure for England and Wales was 4·33.

The maternal mortality rates for Bolton and England and Wales for the past ten years are as follows:—

Year.	Maternal Mortality.	
	England & Wales.	Bolton.
1920	4·3	3·5
1921	3·9	4·4
1922	3·8	4·1
1923	3·8	4·0
1924	3·9	7·8
1925	4·0	4·7
1926	4·1	3·4
1927	4·1	4·4
1928	4·4	3·0
1929	4·3	8·5

There is no doubt that, humanly speaking, a certain number of maternal deaths are unavoidable.

How are preventable maternal deaths to be prevented?

I have on so many occasions stated my views on this subject that I shall be very brief in restating them once more.

What is essential is skilled ante-natal care and skilled assistance at the time of childbirth.

Compared with these, such things as bad housing, overcrowding and dirty homes are factors of negligible importance. It should be unnecessary to add that this must not be taken as a defence of bad housing, overcrowding, and dirt in the home.

A real injury is done to the effort of those who are trying to bring about an improvement in the maternal mortality rate by the prostitution of this tragic subject to propaganda in favour of housing and other matters which have practically no correlation with maternal mortality.

The Ministry of Health now requires that every maternal death shall be fully investigated and the results of such investigation forwarded to the Ministry. Under these circumstances I have decided to omit from this report details of maternal deaths occurring in Bolton.

### Neo-Natal Mortality.

By neo-natal mortality is meant the mortality of the first four weeks of life.

It is due mainly to causes which have been at work before birth.

The following table gives the neo-natal mortality rate for Bolton since 1905. It will be seen that it has not varied much in the last twenty-five years. It is obvious that the causes that give rise to premature birth have not been much influenced for the better during that period.

#### BOLTON'S NEO-NATAL MORTALITY-RATE PER 1,000 BIRTHS.

Year.	Rate.	Year.	Rate.
1905 ... ..	46·8	1918 ... ..	38·9
1906 ... ..	36·7	1919 ... ..	40·3
1907 ... ..	44·6	1920 ... ..	38·9
1908 ... ..	37·3	1921 ... ..	41·2
1909 ... ..	45·4	1922 ... ..	43·0
1910 ... ..	36·7	1923 ... ..	37·6
1911 ... ..	43·2	1924 ... ..	35·5
1912 ... ..	38·7	1925 ... ..	32·8
1913 ... ..	41·7	1926 ... ..	43·7
1914 ... ..	45·8	1927 ... ..	36·2
1915 ... ..	37·8	1928 ... ..	25·8
1916 ... ..	40·1	1929 ... ..	38·3
1917 ... ..	49·8		



The causes of death during the first four weeks of life were as follows:—

**Deaths under Four Weeks.**

CAUSES OF DEATH.	Under 7 days	7 and under 14 days	14 and under 21 days	21 and under 28 days	Total under 28 days
Icterus Neonatorum ... ..	—	—	—	—	—
Convulsions ... ..	2	2	1	1	6
Bronchitis ... ..	—	—	1	1	2
Pneumonia (all forms) ... ..	2	1	1	2	6
Diarrhoea ... ..	—	—	—	—	—
Enteritis ... ..	—	—	1	—	1
Syphilis ... ..	1	—	—	—	1
Suffocation... ..	—	—	—	—	—
Injury at Birth ... ..	5	—	—	—	5
Atelectasis ... ..	6	1	—	—	7
Congenital Malformations ... ..	5	1	—	1	7
Premature Birth ... ..	38	3	4	—	45
Atrophy, Debility and Marasmus ... ..	8	—	—	1	9
Other Causes ... ..	5	3	2	—	10
Totals ... ..	72	11	10	6	99

**The Health Visitors' Work.**

The Health Visitors have done excellent work during the year. The total of the home visits paid by them during the year was 17,058. These visits fall under the following heads:—

**VISITS BY HEALTH VISITORS.**

Primary birth enquiries ... ..	2590
Visits to children, 1—5 years ... ..	2753
Primary visits to expectant mothers ... ..	535
Revisits to infants under 1 year ... ..	6760
Revisits to children, 1—5 years ... ..	2257
Revisits to expectant mothers ... ..	958
Visits to puerperal fever cases ... ..	50
Visits to ophthalmia cases ... ..	630
Death enquiries made ... ..	265
Visits to midwives' houses ... ..	260
Total visits ... ..	17058

2,589 living infants were visited by the Health Visitors, who found that the feeding of these infants was as follows :

					Died under 1 year
1. Breast fed only—1927	...	...	...	...	78
2. Breast fed partially—250	...	...	...	...	72
3. Artificially fed—412	...	...	...	...	115

The report of the Health Visitors on the general condition of the above infants was as follows:—

2330 were healthy,  
161 were delicate,  
98 were premature.

Of the houses visited 2,496 were reported to be clean and 187 dirty.  
45 nuisances first reported by the Health Visitors were dealt with.  
692 leaflets were left at the homes when visited.

#### **Assistance given to Expectant and Nursing Mothers and Children under 5 years of age.**

37,956 quarts of new milk were given to 686 persons.

1,157 lbs. of dried milk were given for the use of 90 infants.

976 lbs. of malt and oil and 7 lbs. of Virol were given to 180 children.

In each of these cases the home is visited by the Health Visitor, and the case is kept under observation. Cases not under a private doctor are required to attend the infant clinics in order that the child's progress may be carefully watched.

One application was received for a home help.

#### **Infant Clinics and School for Mothers.**

The work at the eight infant welfare centres is carried on by the Public Health Authority and the Bolton School for Mothers acting in partnership.

The partnership continues to work smoothly and successfully and I take pleasure in recording once more my appreciation of the work of the voluntary helpers. The Bolton School for Mothers thoroughly deserves the support of the Bolton Public.

The eight centres and the times at which meetings take place at them are as follows :

NAME AND ADDRESS OF CENTRE.	DAY AND TIME OF MEETING.		
The Friends' School Room, Tipping Street	...	Monday	3 p.m.
St. Matthew's Mission Room, James Terrace	...	Monday	3 p.m.
Halliwell Road Free Church ... ..	...	Tuesday	3 p.m.
Victoria Wesleyan School, Grecian Crescent	...	Tuesday	3 p.m.
Girls' Club, Kensington Street ... ..	...	Wednesday	3 p.m.
St. Chad's School, Belvoir Street ... ..	...	Wednesday	3 p.m.
The Saviour's Church House, Deane Road	...	Thursday	3 p.m.
Peace Street Primitive Methodist School ... ..	...	Thursday	3 p.m.

The attendances at the clinics during 1929 were as follows :

			New Members	No. on Roll	Total Attendances	Meetings	Average Attendance
1. Tipping Street	...	...	199	313	2225	42	52'9
2. Peace Street	...	...	181	241	1693	43	39'3
3. Halliwell	...	...	213	315	2017	44	45'8
4. Grecian Crescent	...	...	153	212	1729	44	39'2
5. Kensington	...	...	161	228	1295	43	30'1
6. Saviour's	...	...	126	189	1391	44	31'6
7. James Terrace	...	...	132	179	1133	39	29'0
8. St. Chad's	...	...	153	250	1814	45	43'1
			1318	1927	13297	344	311'0

The total number of new members enrolled at the centres in 1929 was 1318. The number for 1928 was 1230. This is an increase of 88 in 1929.

The age distribution of the children enrolled at the various centres was as follows :

Under one month	...	...	...	...	311
„ two months	...	...	...	...	347
„ three months	...	...	...	...	174
„ six months	...	...	...	...	139
„ twelve months	...	...	...	...	120
Twelve months and over	...	...	...	...	227

From this table it appears that of the new members enrolled in 1929 those whose age was under twelve months numbered 1091. The number for 1928 was 994. These figures illustrate the steady growth of the work, work which covers the greater part of the infant life of Bolton. The total number of children under the age of twelve months who attended the infant clinics in 1929 was 1383. So that well over half the infants under 12 months of age in Bolton in 1929 attended the infant clinics, an excellent record.

### **Ante-natal Work.**

We have now 3 ante-natal clinics. They are conducted by our doctor for maternity and child welfare, Dr. Mary Boullen.

Two clinics are held on the premises of the School for Mothers in St. George's Road, one at 10 a.m., on Tuesdays, and one at 3 p.m., on Tuesdays. At these clinics, in addition to the examining and advising of expectant mothers, short addresses are given by Miss Steeples and other members of the health visiting staff.

189 mothers attended these two clinics and made 765 attendances in 1929. The number who attended in 1928 was 136.

The third ante-natal clinic is held at the Haslam Maternity Home on Fridays at 3 p.m. This clinic is reserved for expectant mothers on the admission list of the Haslam Maternity Home and all such expectant mothers are asked to attend it unless they are having ante-natal care from their own doctor.

There is no doubt that these clinics are doing excellent work.

### **Massage.**

This clinic held by the kind permission of the Bolton Education Authority is conducted in very suitable premises at Flash Street School.

The clinic has been in charge of Miss M. L. Bruckshaw, C.S.M.M.G. during 1929. She is a paid part-time member of the Public Health Staff.

1602 treatments were given during 1929. No cases are treated at this clinic unless referred to it by the medical officers of the infant clinics. Excellent results are obtained in many cases.

I hope that before long much of the work of this clinic will become the work of a complete orthopædic scheme.

### **Work of Nurses employed by the School for Mothers.**

These nurses paid 3828 visits during 1929. These visits are paid only to the homes of children attending the infant clinics. They are paid for the purpose of supervision and to help the mothers in carrying out the advice given at the clinics.

### **Artificial Sunlight Clinic.**

This clinic meets three times a week at the premises of the School for Mothers in St. George's Road.

Dr. Mary Boullen is the medical officer of the clinic, and the operator is Miss Charnock, C.S.M.M.G.

The only cases treated at this clinic are the cases referred to it by the medical officers of the Infant Welfare Centres.

I give below Dr. Mary Boullen's report. It is in substantial agreement with the findings throughout the country generally. Some cases receive great benefit from artificial sunlight, but in some quarters exaggerated claims are put forward for it for which there is no justification. I have myself come across parents who were making very great sacrifices in order to pay heavy fees for the treatment by artificial sunlight of conditions in their children which could not possibly benefit by such treatment.

On its results our sunlight clinic continues to justify its existence.

"There has been but little alteration in the methods of treatment at this clinic during 1929. It has been attended, as before, by infants and children below the age of five, the great majority of cases being those of rickets and various types of debility and malnutrition.

It was found in previous years that a certain proportion of the cases of debility returned for treatment after having been discharged some weeks previously. These were found to have relapsed to some extent, due in most cases to the bad hygiene of their home surroundings.

To obviate this, an attempt has been made in many cases to give even longer courses of treatment than last year, with a more gradual increase in the time of exposure, which varies in most cases, from 3 minutes to half an hour.

The effect of this was to make only a slight increase in the average number of attendances. This small increase in the number is due to the fact that, while some parents attended regularly for as long a time as was required, many tired sooner of bringing their babies than they had done with shorter courses of treatment.

It is now hoped that with a reversion to the shorter courses of treatment and more rapidly increasing times of exposure, the patients will attend more satisfactorily and consequently more accurate reports of results will be obtained.

There were fewer new cases treated this year, 50 as compared with 65—this being partially due to the longer courses of treatment attempted.

Twenty cases of rickets were treated, compared with twenty-one last year, and more than half of these showed varying degrees of improvement.

The results of these cases is quite satisfactory when it is remembered that most of those who did not improve ceased attending after very few treatments.

The majority of these cases had cod-liver-oil, fewer of them had massage—as the mothers found it difficult to spare the time for attendances at both clinics.

The cases of debility, seven in number, following some definite disease of childhood—whooping cough and broncho-pneumonia being the most frequent—again did exceptionally well.

The majority of the other cases of debility also showed considerable improvement. These also numbered 7.

The seven babies suffering from marasmus, however, showed the most varying results, as was found last year. A small proportion showed spectacular improvement; one died, the condition of the others remained stationary.

Only two cases of enlarged cervical glands were treated. One ceased attending almost at once, the other was awaiting operation and his general condition showed great improvement during treatment though the gland itself did not become appreciably smaller.

Four cases of anæmia were treated—two were very much improved, the other two ceased attending before there was any change in their condition.

The cases which have proved most satisfactory have been those of rickets and also the children suffering from general debility—notably debility following some disease such as whooping cough.

The most varying results were, as has been already mentioned, in the cases of marasmus, the difficulty being to get the initial improvement, not only by the ultra-violet rays but also by general hygienic treatment and advice on feeding.



As soon as these babies began to respond to the treatment, they improved rapidly and provided some of the most spectacular results of the clinic. But, in spite of all efforts, some showed not the slightest response.

In the marasmus type of case especially, the intelligent co-operation of the mother is one of the most valuable assets to treatment.

There seems to be an increasing appreciation of the clinic by the mothers generally, and in some cases they can only be persuaded with great difficulty that no 'sunlight' treatment will do their children any good—advertisement still leading some of them to believe that it is a cure-all."

#### HASLAM MATERNITY HOME.

The appreciation of the work of this institution increases year by year and is made evident by the increasing number of applicants for admission.

1929 was a year of successful work, uninterrupted by any outbreak of infectious disease.

The warmest friends of the institution are those who have been its patients.

382 cases were admitted during 1929 as compared with 308 in 1928.

At the present time (June, 1930) we have ceased to admit patients from outside the area of the County Borough of Bolton. We were sorry to have to do this, but the fact that we were refusing admission to Bolton residents made it impossible to admit from outside the Borough. The question of increasing the accommodation at the Haslam Maternity Home is under consideration.

Miss Evans, our excellent Matron, is, I am glad to say, still with us. Her skill and untiring attention to every detail of the work of the home are invaluable.

She has been ably supported by a loyal staff.

Dr. Mary Boullen's co-operation has continued to be very valuable.

There is no fixed scale of fees payable by patients. The fee is determined by the patients' need of the services of the institution and the patients' ability to pay.

Full particulars of all cases admitted in 1929 are appended.

## STATISTICS 1929.

1.	Total number of cases admitted	...	...	...	382
2.	Average duration of stay in days	...	..	...	13.6
3.	No. of cases delivered by —				
	(a) Midwives	...	...	...	344
	(b) Doctors	...	...	...	38
4.	No. of cases in which medical assistance was sought by the midwife with reason for requiring assistance	...	...	...	80
	(a) Ante-natal	...	...	...	17
	Albuminuria	...	...	...	4
	Heart disease	...	...	...	3
	Breech presentation	...	...	...	2
	Contracted pelvis	...	...	...	2
	Quick pulse	...	...	...	1
	Prolapsed cervix	...	...	...	1
	Ante-natal exam.	...	...	...	1
	Abdominal pains	...	...	...	1
	Hæmorrhage	...	...	...	1
	Rise of temperature	...	...	...	1
					17
	(b) During labour	...	...	...	35
	Ruptured perineum (all sutured)	...	...	...	15
	Fits	...	...	...	1
	Tedious labour	...	...	...	5
	Heart disease	...	...	...	2
	Albuminuria	...	...	...	2
	Malpresentation	...	...	...	1
	Delayed vertex	...	...	...	5
	Impacted breech	...	...	...	1
	Adherent placenta	...	...	...	3
					35
	(c) After labour	...	...	...	13
	Albuminuria	...	...	...	1
	Septic fingers	...	...	...	1
	Influenza	...	...	...	3
	Rash	...	...	...	1
	Thrombosis	...	...	...	1
	Septic teeth	...	...	...	1
	Phlebitis	...	...	...	2
	Rise of temperature	...	...	...	2
	Anæmia	...	...	...	1
					13



(d) For Infant	...	...	...	...	15
Inflamed breast	...	...	...	1	
Weakly premature	...	...	...	3	
Jaundice	...	...	...	1	
Melæna	...	...	...	2	
Talipes	...	...	...	1	
Cyanosed	...	...	...	1	
Discharging eyes	...	...	...	6	

---

15

5. No. of cases notified as (a) puerperal fever and (b) puerperal pyrexia (i.e. rise of temperature to 100.4°F for 24 hours or its recurrence within that period) with result of treatment in each case.

(a) Puerperal fever ... .. Nil

(b) Puerperal pyrexia ... .. 4

Influenza ... 2  
Nephritis ... 1  
Cystitis ... 1

---

4

(All made a good recovery and were quite well when discharged from the Home.)

6. No. of cases of pemphigus neonatorum... .. Nil

7. No. of cases notified as ophthalmia neonatorum, with result of treatment in each case ... .. 1  
(Quite well after treatment in the Home for three weeks).

8. No. of cases of "Inflammation of the eyes," however slight... 17

9. No. of Infants not entirely breast fed whilst in the institution with reasons why not breast fed ... .. 10

Entirely bottle fed—Mother's condition  
unsatisfactory ... .. 3

*Supplementary feeds of cow's milk and water :*

Baby had hare lip and cleft palate... .. 1  
Mother's nipples very cracked ... .. 1  
Mothers had influenza ... .. 4  
Baby losing weight ... .. 1

---

10

10.	No. of maternal deaths, with causes (Eclampsia)	...	...	1
11.	No. of foetal deaths (stillborn or within 10 days of birth) and their causes, and the results of the post-mortem examinations, if obtainable	...	...	16
(a)	Stillbirths	...	...	12
	Meningocele	...	...	1
	Had not felt baby for some time	...	...	2
	Macerated	...	...	4
	Impacted breech	...	...	1
	Early ruptured membranes...	...	...	1
	Mother had severe albuminuria	...	...	1
	Mother positive Wassermann	...	...	1
	Second twin	...	...	1
(b)	Deaths within 10 days of birth	...	...	4
	Severe jaundice	...	...	1
	Premature—the mothers had albuminuria...	...	...	3

### Bolton Day Nursery.

The work of the Bolton Day Nursery in 1929 was considerably interfered with by the prevalence of infectious disease. To this cause is entirely due the fall in the total number of attendances as compared with 1928.

The Day Nursery continues to be well administered and owes a good deal to its present Matron, Miss Bradshaw.

The children attending the Day Nursery continue to benefit by the valuable services of the honorary physician, Dr. Falconer.

The children benefit greatly by the care they receive at the nursery and for many hard-pressed homes it has provided the solution of an otherwise insoluble problem.

## STATISTICS FOR THE YEAR ENDED 31ST DECEMBER, 1929.

## Attendances...

Whole day under 3 years	...	...	4126
Whole day 3 years and over	...	...	744
Total whole day	...	...	4870
Half day under 3 years...	...	...	943
Half day 3 years and over	...	...	86
Total half day	...	...	1029
Average for the year—whole day...	...	...	19.5
half day	...	...	21.0
Number of days open { whole day...	...	...	249
during year ... { half day	...	...	49
Average number of attendances per child	...	...	49.1

The total attendances numbered 5,899 in 1929 as compared with 6,482 in 1928.

## CONTROL OF MIDWIVES.

During 1929 the number of midwives who notified their intention to practise in Bolton was 76. Of them, eight were resident members of the staff of the Haslam Maternity Home.

The following table gives details of the Midwives' work:—

	Trained.	Untrained.	Total.
No. of midwives...	72	4	76
No. of cases attended	2283	34	2322
Av. no. of cases per midwife	31	8	30
No. of calls for medical aid	431	5	436
Per cent of cases in which medical aid was sought	18%	14%	18%
No. on the Register at the beginning of the year	...	...	68
No. who ceased to practise in Bolton	...	...	4
No. who notified their intention to practise in Bolton for the first time	...	...	6
No. on the Register at the end of the year	...	...	72
Names voluntarily removed from Roll	...	...	—

The following 527 notifications were received from midwives in accordance with the regulations of the Central Midwives Board:—

Medical assistance	...	...	...	...	...	436
--------------------	-----	-----	-----	-----	-----	-----

CONDITIONS FOR WHICH DOCTORS WERE SUMMONED  
IN AN EMERGENCY BY MIDWIVES.

PREGNANCY	...	...	...	...	...	...	...	...	44
Abortion or threatened abortion	...	...	...	...	...	...	...	10	
Albuminuria	...	...	...	...	...	...	...	4	
Ante-partum hæmorrhage	...	...	...	...	...	...	...	8	
Deformity or stunted growth	...	...	...	...	...	...	...	7	
Heart disease	...	...	...	...	...	...	...	3	
Breech presentation	...	...	...	...	...	...	...	2	
Contracted pelvis	...	...	...	...	...	...	...	2	
Other conditions	...	...	...	...	...	...	...	8	
LABOUR	...	...	...	...	...	...	...	...	263
Delayed, complicated or obstructed labour	...	...	...	...	...	...	...	86	
Ruptured perineum	...	...	...	...	...	...	...	96	
Malpresentation	...	...	...	...	...	...	...	16	
Uterine inertia	...	...	...	...	...	...	...	16	
Retained placenta	...	...	...	...	...	...	...	20	
Albuminuria	...	...	...	...	...	...	...	2	
Placenta prævia	...	...	...	...	...	...	...	3	
Weakness	...	...	...	...	...	...	...	5	
Heart disease	...	...	...	...	...	...	...	2	
Eclampsia	...	...	...	...	...	...	...	2	
Other conditions	...	...	...	...	...	...	...	15	
PUERPERIUM	...	...	...	...	...	...	...	...	43
Rise of temperature	...	...	...	...	...	...	...	11	
Post-partum hæmorrhage	...	...	...	...	...	...	...	13	
Rapid pulse	...	...	...	...	...	...	...	2	
Unusual swelling of breasts	...	...	...	...	...	...	...	1	
Influenza	...	...	...	...	...	...	...	3	
Phlebitis	...	...	...	...	...	...	...	2	
Heart disease	...	...	...	...	...	...	...	1	
Other conditions	...	...	...	...	...	...	...	10	
INFANTS	...	...	...	...	...	...	...	...	86
Feebleness, etc.	...	...	...	...	...	...	...	33	
Inflammation of eyes	...	...	...	...	...	...	...	20	
Skin eruptions	...	...	...	...	...	...	...	5	
Malformation	...	...	...	...	...	...	...	9	
Convulsions	...	...	...	...	...	...	...	4	
Melæna	...	...	...	...	...	...	...	2	
Jaundice	...	...	...	...	...	...	...	1	
Other conditions	...	...	...	...	...	...	...	12	

Stillbirths	...	...	...	...	...	...	...	60
Artificial feeding	...	...	...	...	...	...	...	16
Death of mother or child	...	...	...	...	...	...	...	6
Laying out of dead body	...	...	...	...	...	...	...	5
Liability to be a source of infection	...	...	...	...	...	...	...	4

2,322 cases out of a total of 2,580 births registered were attended by midwives.

The Local Authority neither employs nor subsidizes any practising midwives.

I desire once more to record my appreciation of the work of the Bolton midwives. The great majority of them are most conscientious in the discharge of their duties, and sincerely desire to comply with the rules of the Central Midwives Board. Their remuneration is extremely inadequate.

#### Lectures to Midwives.

During 1929 five Lectures to Midwives were arranged. These lectures were delivered by Dr. K. Vernon Bailey, of St. Mary's Hospital, Manchester, and Dr. Catherine Chisholm, of the Babies Hospital, Manchester.

The subjects of the lectures were as follows :

Dr. K. Vernon Bailey	...	Delayed and Obstructed Labour.
Dr. K. Vernon Bailey	...	Puerperal Sepsis.
Dr. K. Vernon Bailey	...	Ante-natal Work.
Dr. Catherine Chisholm	...	Septic Affections of the Newly Born.
Dr. K. Vernon Bailey	...	Ante-natal Care.

The lectures were, as they deserved to be, very greatly appreciated and were well attended.

#### REGISTRATION OF NURSING HOMES (INCLUDING MATERNITY HOMES).

There are four Nursing Homes registered under the Nursing Homes Registration Act of 1927.

Bye-laws under this Act are now (1930) in force in Bolton.



SECTION X.



Miscellaneous.





**Queen's Park Observatory, Bolton.**

**WEATHER SUMMARY FOR 1929.**

**METEOROLOGICAL SUMMARY, 1929.**

The Mean Barometric Pressure for the year, 29·982", was ·05" above the average. The highest reading was 30·834" on March 1st, and the lowest 28·250" on December 7th. Excepting a reading of 27·882" on December 9th, 1886, this is the lowest reading recorded for Bolton.

The average Mean Temperature was 47·1° and the average Black Bulb reading, the lowest recorded, 72·1°. The highest shade temperature was 83·0° on July 13th, and the lowest 13·5° on February 14th. Frost in the shade occurred on 37 days.

Sunshine was recorded on 272 days, the total, 1,161·9 hours being 150 hours in excess of normal. The greatest amount in one day, 14·7 hours, was on July 14th.

The total rainfall, 48·176" was 4" above the average, despite the drought during the early part of the year. This is accounted for by the exceptionally wet months of August, October, November and December, during which 29·9" were recorded. Rain fell for 720 hours on 92 days. The heaviest fall for one day, 1·4", occurred on November 11th.

The prevailing winds were South-westerly, and the average daily distance 119 miles. A wind velocity of 35 miles per hour was attained on October 10th, and a maximum daily mileage of 410 miles was recorded for December 11th. Thunderstorms occurred on eight days during the year.

THOS. MIDGLEY, F.R.Met.S.

Meteorological Summary for 1929.

1929	Mean Pressure of Barometer at Sea Level	Mean Relative Humidity	Mean of Maximum and Minimum Temperature	Absolute extremes of Temperature.				Sunshine.			Total Rainfall
				Highest	Date	Lowest	Date	Total Amount	Maximum in one day	Date	
January	30.308"	87.7%	35.57°	52.7°	30	24.7°	27	14.5	hours	16	ins.
February	30.098	88.0	33.41	50.6	22	13.4	14 & 15	16.7	3.5	10	2.611"
March	30.348	86.0	41.34	69.0	28	20.5	1	64.5	4.7	29	1.394
April	30.058	69.3	42.67	62.7	19	28.3	21	103.1	5.7	29	1.689
May	29.949	68.9	51.69	72.6	23	36.1	3	201.0	9.5	29	1.307
June	29.981	69.2	54.25	72.8	19	37.7	5	219.4	13.6	30	3.005
July	30.008	71.5	59.00	83.0	16	40.5	8	173.4	13.6	27	1.926
August	29.942	79.9	57.18	73.5	26	43.0	8	124.3	14.7	14	3.999
September	30.113	83.5	57.06	78.0	8	40.2	14	119.8	11.5	2	6.525
October	29.783	85.9	48.25	61.4	16	29.9	27	73.2	9.1	2	2.343
November	29.644	91.0	42.79	54.9	7	26.9	18	36.2	8.0	27	7.207
December	29.551	89.7	41.87	53.3	13	30.7	22	21.8	4.5	3-8	8.861
									3.1	3	7.309
Total	359.783	970.6	565.08					1161.9			48.176
Averages	29.982	80.9	47.09					96.3			4.015

	Swimming Baths				Slipper Baths		Needle Baths	Vapour Baths	Con-tracts	Total Bath-ers	Corres-ponding period last year	No. using Wash-houses	Corres-ponding period last year
	Mixed Bathing	4d.	3d.	2d.	8d.	6d.							
Moss St. Baths & Wash-houses...	6d.						9d.	9d.					
	6488	34527	3144	37661	3622	10620	...	...	34810	130872	126693	22690	25092
Bridgman St. Baths	6d.												
	6183	21153	1971	21975	4993	4035	...	304	20379	80993	68813	...	...
High St. Baths	6d.												
	3096	16872	1097	19498	2005	5800	13	203	22729	71313	63904	...	...
Total	15767	72552	6212	79134	10620	20455	13	507	77918	283178	259410	22690	25092

Turkish Baths. 12 months ended 31st March, 1930.

	Turkish Baths		Slipper Baths		Message	Medi- cated Baths	Total Bathers	Corres- ponding period last year
	1st Class	2nd Class	1st Class	2nd Class				
Turkish Baths ...	2438	1853	296	481	193	84	5345	4855

**Corporation Horses.**

REPORT ON THE INSPECTION AND TREATMENT OF HORSES  
BELONGING TO THE CORPORATION.

The following statement shows the total number of Corporation horses on the 31st December, 1929, the Committees to which they belong, and the total visits of inspection for the purpose of treatment of horses for various ailments during the year.

Committee					Number of Horses	Visits of Inspec- tion during 1929
Cleansing and Sewage	...	...			47	80
Streets	...	...	...	...	3	3
Gas	...	...	...	...	3	14
Parks	...	...	...	...	1	11
Cemetery	...	...	...	...	2	11
Waterworks	...	...	...	..	2	9
Education	...	...	...	...	2	15
Total	...	...	...		60	143

During the year four horses were submitted to veterinary examination prior to consideration of purchase by the Cleansing and Sewage Committee.

THE FOLLOWING CIRCULAR LETTERS, ETC.,  
WERE SENT OUT DURING 1929.

- 8/1/29            28 letters to Bolton slaughterhouse keepers calling attention to the possible danger arising from the use as human food, in the form of black puddings, of blood from animals suffering in some degree from tuberculosis.
- 29/1/29            79 letters to medical practitioners enclosing Ministry of Health's Memorandum <sup>2</sup>/<sub>Med.</sub> on Influenza (Revised Edition).
- 11/4/29            29 letters to neighbouring Medical Officers of Health notifying them of a case of smallpox in Bolton.
- 13/8/29            97 letters to Ministers of all denominations asking them if they could see their way to dealing with the subject of health propaganda during one of the services in Civic Week, and enclosing a pamphlet prepared by the Health and Cleanliness Council giving suggestions for the incorporation of the ideals of health and cleanliness in religious teaching.
- 20/8/29            29 letters to neighbouring Medical Officers of Health notifying them of a case of smallpox in Bolton.
- 19/9/29            68 leaflets to Bolton and District midwives announcing a special lecture by Dr. K. Vernon Bailey of Manchester, in the Spinners' Hall, St George's Road, on Monday, the 23rd September, 1929, in connection with Civic Week.
- 6/10/29            29 letters to neighbouring Medical Officers of Health notifying them of a case of smallpox in Bolton.
- 1/11/29            312 letters to farmers, corn and provision merchants, etc., calling attention to, and giving advice, *re* Rat Week.
- 5/12/29            96 letters to medical practitioners in and around Bolton notifying them of the sanction of the Ministry of Health to the admission of smallpox patients to the Bolton Borough Isolation Hospital.
- 30/12/29            110 letters to medical practitioners enclosing a pamphlet by Dr. W. McConnell Wanklyn entitled, "The Accurate Diagnosis of Smallpox."—(Third Edition, 1927).



SECTION XI.



Appendix.

[illegible]



[illegible]

List No.	CAUSES OF DEATH.	Total	SEX.		AGE.															
			M.	F.	0 to 1	1 to 2	2 to 3	3 to 4	4 to 5	5 to 10	10 to 15	15 to 20	20 to 25	25 to 30	30 to 35	35 to 40	40 to 45			
42	Other infectious diseases...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	
1-42	Epidemic, Endemic and Infectious diseases ...	479	234	245	41	39	33	9	5	13	5	14	28	28	20	17	23	...	...	
43-49	Cancer, Malignant disease ...	204	113	91	...	...	...	...	...	...	1	1	...	...	4	6	8	...	...	
43	Buccal cavity ...	13	11	2	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	
44	Pharynx, œsophagus, stomach, liver and annexa ...	80	54	26	...	...	...	...	...	...	...	...	...	...	2	1	4	...	...	
45	Peritoneum, intestines and rectum ...	39	23	16	...	...	...	...	...	...	...	...	...	...	...	...	2	...	...	
46	Female genital organs ...	18	...	18	...	...	...	...	...	...	...	1	...	...	...	2	1	...	...	
47	Breast ...	20	...	20	...	...	...	...	...	...	...	...	...	...	...	...	...	2	...	
48	Skin ...	3	2	1	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	
49	Other or unspecified organs ...	31	23	8	...	...	...	...	...	...	1	...	...	...	2	1	...	...	...	
50	Tumours, not returned as malignant (brain and female genital organs excepted) ...	7	4	3	...	...	1	...	...	...	...	...	...	...	...	...	...	...	...	
51	Rheumatic fever ...	22	4	18	...	...	...	...	...	1	1	1	4	1	1	3	2	...	...	
52	Chronic rheumatism, osteoarthritis, gout ...	11	4	7	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	
	1. Chronic rheumatism, chronic arthritis ...	2	2	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	
	2. Rheumatoid and osteoarthritis ...	9	2	7	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	
	3. Gout ...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	
53	Scurvy ...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	
54	Pellagra ...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	
55	Beri-beri ...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	
56	Rickets ...	3	3	...	1	2	...	...	...	...	...	...	...	...	...	...	...	...	...	
57	Diabetes ...	41	10	31	...	...	...	...	...	...	1	1	...	...	...	...	...	...	...	
58	Anæmia, chlorosis ...	13	9	4	...	...	...	...	...	...	...	...	...	...	1	...	...	...	...	
	(a) Pernicious anæmia ...	13	9	4	...	...	...	...	...	...	...	...	...	...	1	...	...	...	...	
	(b) Other anæmias and chlorosis ...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	
59	Diseases of the pituitary gland ...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	
60	Diseases of the thyroid gland ...	6	2	4	...	...	...	...	...	...	...	...	...	...	2	...	...	...	...	
	(a) Exophthalmic goitre ...	6	2	4	...	...	...	...	...	...	...	...	...	...	2	...	...	...	...	
	1. Myxœdema ...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	
	2. Cretinism ...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	
	3. Other diseases of the thyroid gland ...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	
61	Diseases of the parathyroid glands ...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	
	1. Tetany ...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	
	2. Other diseases of the parathyroid gland ...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	
62	Diseases of the thymus ...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	
63	Diseases of the adrenals ...	2	...	2	...	...	...	...	...	...	...	...	...	1	...	...	...	...	...	
64	Diseases of the spleen ...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	
65	Leukæmia, lymphadenoma ...	4	2	2	...	...	...	...	...	...	...	...	...	1	...	...	...	...	...	
	(a) Leukæmia ...	1	1	...	...	...	...	...	...	...	...	...	...	1	...	...	...	...	...	
	(b) Lymphadenoma (Hodgkin's disease) ...	3	1	2	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	
66	Alcoholism (acute or chronic) ...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	
67	Chronic poisoning by mineral substances ...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	
68	Chronic poisoning by organic substances ...	1	1	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	
69	Other general diseases ...	4	1	3	1	...	...	...	...	...	...	...	...	1	...	...	...	...	...	
	1. Purpura ...	1	...	1	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	
	2. Hæmophilia ...	1	...	1	1	...	...	...	...	...	...	...	...	...	...	...	...	...	...	
	3. Other diseases included under 69 ...	2	1	1	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	
	Total General Diseases ...	797	387	410	43	41	34	9	5	14	8	17	35	30	27	3	...	...	...	

## WARD.

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-Continued.  
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List No.	CAUSES OF DEATH.	Total	SEX.		AGE.													
			M.	F.	0 to 1	1 to 2	2 to 3	3 to 4	4 to 5	5 to 10	10 to 15	15 to 20	20 to 25	25 to 30	30 to 35	35 to 40		
90	Other diseases of the heart— <i>contd.</i>																	
	(7) Other or unspecified myocardial disease ...	192	83	109	...	...	...	...	...	...	...	...	3	...	...	...	...	
	(8) Disordered action of the heart ...	12	4	8	...	...	...	...	...	...	...	...	...	...	1	...	...	
	(9) Heart disease (undefined)...	2	1	1	...	...	...	...	...	...	...	...	...	...	...	...	...	
91	Diseases of the arteries ...	212	86	126	...	...	...	...	...	...	...	...	...	...	...	...	...	
	(a) Aneurism ...	1	1	...	...	...	...	...	...	...	...	...	...	...	...	...	...	
	(b) Arterio-sclerosis ...	210	85	125	...	...	...	...	...	...	...	...	...	...	...	...	...	
	(1) With record of cerebral vascular lesion ...	72	32	40	...	...	...	...	...	...	...	...	...	...	...	...	...	
	(2) Without record of cerebral vascular lesion ...	138	53	85	...	...	...	...	...	...	...	...	...	...	...	...	...	
	(c) Other diseases of the arteries ...	1	...	1	...	...	...	...	...	...	...	...	...	...	...	...	...	
92	Embolism and thrombosis (not cerebral) ...	1	...	1	...	...	...	...	...	...	...	...	...	...	...	...	...	
93	Diseases of the veins (varices, hæmorrhoids, phlebitis, etc.) ...	2	1	1	...	...	...	...	...	...	...	...	...	...	...	...	...	
94	Diseases of the lymphatic system (lymphangitis, etc.) ...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	
95	Hæmorrhage without stated cause ...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	
96	Other diseases of the circulatory system ...	3	1	2	...	...	...	...	...	...	...	...	...	...	...	...	...	
	Total Diseases of the Circulatory System ...	628	265	363	...	...	...	...	...	1	1	1	3	4	4	11	...	
	<b>Diseases of the Respiratory System.</b>																	
97	Diseases of the nasal fossæ and annexa ...	1	1	...	...	...	...	...	...	...	1	...	...	...	...	...	...	
	(1) Diseases of the nose ...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	
	(2) Diseases of the accessory nasal sinuses ...	1	1	...	...	...	...	...	...	...	1	...	...	...	...	...	...	
98	Diseases of the larynx ...	1	1	...	...	...	...	...	...	...	...	...	1	...	...	...	...	
	(1) Laryngismus stridulus ...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	
	(2) Laryngitis ...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	
	(3) Other diseases ...	1	1	...	...	...	...	...	...	...	...	...	1	...	...	...	...	
99	Bronchitis ...	244	102	142	18	8	1	...	...	2	...	1	...	1	2	2	7	
	(a) Acute... ..	74	28	46	13	4	...	...	...	1	...	...	...	...	1	1	1	
	(b) Chronic ...	67	36	31	1	...	...	...	...	...	...	...	...	1	2	...	5	
	(c) Not stated whether acute or chronic ...	103	38	65	4	4	1	...	...	1	...	1	...	...	...	1	...	
100	Pneumonia (all forms) ...	263	147	116	62	46	17	3	5	7	4	1	3	2	5	8	2	
100	Broncho-pneumonia ...	168	89	79	58	44	17	2	4	4	2	...	...	1	1	1	4	
101	Pneumonia (lobar and not otherwise defined) ...	95	58	37	4	2	...	1	1	3	2	1	3	1	4	7	8	
	(a) Lobar ...	67	42	25	1	2	...	1	...	3	1	1	3	1	2	5	7	
	(b) Not otherwise defined ...	28	16	12	3	...	...	...	1	...	1	...	...	...	2	2	1	
102	Pleurisy ...	7	5	2	...	...	...	...	...	...	...	1	...	1	...	...	...	
	(1) Empyema ...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	
	(2) Other pleurisy ...	7	5	2	...	...	...	...	...	...	...	1	...	1	...	...	...	
103	Congestion and hæmorrhagic infarct of lung ...	5	1	4	...	...	...	...	...	...	...	...	...	...	...	...	...	
104	Gangrene of the lung ...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	
105	Asthma ...	10	6	4	...	...	...	...	...	...	...	...	...	...	...	1	...	
106	Pulmonary emphysema ...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	
107	Other diseases of the respiratory system ...	1	1	...	...	...	...	...	...	...	...	...	...	1	...	...	...	
	(a) Chronic interstitial pneumonia ...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	
	(b) Diseases of the mediastinum ...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	
	(c) Other diseases included under 107 ...	1	1	...	...	...	...	...	...	...	...	...	...	1	...	...	...	
	Total Diseases of the Respiratory System ...	532	264	268	80	54	18	3	5	9	5	3	4	5	7	11	19	

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														WARD.											
60 to 65	65 to 70	70 to 75	75 to 80	80 to 85	85 and upwards	5 to 9	5 and upwards	North	East	West	Tonge	Exchange	Bradford	Church	Great Lever	Dar. Lever c-Br'htmet	Derby	Hulton	Deane-c-Loxstock	Rumworth	Halliwell	Heaton	Smithills	Astley Bridge	
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55 to 60	60 to 65	65 to 70	70 to 75	75 to 80	80 to 85	85 and upwards	0 to 5	5 and upwards	North	East	West	Tonge	Exchange	Bradford	Church	Great Lever	Dar. Lever c-Br 'htmet	Derby	Hulton	Deane-c- Lostock	Rumworth	Halliwell	Heaton	Smithills	Astley Bridge
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I	3	7	24	37	31	16	...	119	4	10	21	10	5	10	7	10	2	9	I	I	2	13	I	3	10



WARD.																									
60 to 65	65 to 70	70 to 75	75 to 80	80 to 85	85 and upwards	to 5	5 and upwards	North	East	West	Tonge	Exchange	Bradford	Church	Great Lever	Dar Lever- c-Br hitmet	Derby	Hulton	Deane-c- Lostock	Rumworth	Halliwell	Heaton	Smithills	Astley Bridge	
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List No.	CAUSES OF DEATH.	Total	SEX.		AGE.													
			M.	F.	0 to 1	1 to 2	2 to 3	3 to 4	4 to 5	5 to 10	10 to 15	15 to 20	20 to 25	25 to 30	30 to 35	35 to 40	40 to 45	45 to 50
1-69	General Diseases ...	797	387	410	43	41	34	9	5	14	8	17	35	30	27	29	16	9
70-86	Nervous System, etc. ...	209	99	110	22	3	1	2	1	5	5	1	2	3	3	1	6	7
87-96	Circulatory System ...	628	265	363	...	...	...	...	...	1	1	1	3	4	4	11	6	7
97-107	Respiratory System ...	532	264	268	80	54	18	3	5	9	5	3	4	5	7	11	19	10
108-127	Digestive System ...	129	63	66	20	2	...	...	...	3	2	6	2	3	4	2	5	6
128-142	Genito-urinary System, etc. (Non-puerperal) ...	140	77	63	1	2	...	1	...	1	1	1	3	3	3	5	1	2
143-150	The Puerperal State ...	22	...	22	...	...	...	...	...	...	...	1	5	6	6	2	2	3
151-154	Skin and Cellular Tissue ...	12	6	6	4	...	...	...	...	...	...	...	...	...	...	...	...	...
155-158	Locomotor System, etc. ...	5	1	4	...	...	...	...	...	2	...	...	...	...	...	1	...	...
159	Malformations ...	15	7	8	11	2	1	...	...	1	...	...	...	...	...	...	...	...
160-163	Diseases of Early Infancy ...	84	52	32	84	...	...	...	...	...	...	...	...	...	...	...	...	...
164	Old Age ...	119	50	69	...	...	...	...	...	...	...	...	...	...	...	...	...	...
165-203	External Causes ...	102	79	23	...	2	...	2	2	6	4	3	4	10	5	4	1	...
204-205	Ill-defined Diseases ...	3	2	1	1	...	...	...	...	...	...	...	...	...	...	...	...	...
GRAND TOTAL ...		2797	1352	1445	266	106	54	17	13	42	26	33	58	64	59	60	96	100



continued.

H, 1929.

..19..

								WARD.																	
60 to 5	65 to 70	70 to 75	75 to 80	80 to 85	85 and upwards	0 to 5	5 and upwards	North	East	West	Tonge	Exchange	Bradford	Church	Great Lever	Dar Lever- c-Br' hmet	Derby	Hulton	Deane-c- Lostock	Rumworth	Halliwell	Heaton	Smithills	Astley Bridge	
92	89	57	47	15	5	132	665	17	53	119	44	18	93	24	50	17	87	30	24	36	95	15	38	37	
28	22	30	26	10	1	29	180	10	11	42	10	3	24	7	23	3	20	5	3	10	18	3	9	8	
79	101	109	96	50	29	...	628	21	31	63	29	17	78	30	53	17	69	24	17	30	79	13	37	20	
51	52	60	39	18	7	160	372	34	44	88	41	16	67	22	30	7	67	15	5	21	54	2	9	10	
11	8	12	10	3	2	22	107	7	7	19	7	1	14	6	9	6	11	2	3	8	19	1	6	3	
15	15	23	14	3	2	4	136	4	6	15	8	4	15	5	10	5	14	4	11	8	16	2	4	9	
...	...	...	...	...	...	...	22	1	1	7	1	...	4	...	1	1	1	1	...	...	2	...	1	1	
...	1	1	3	...	1	4	8	1	...	1	...	2	1	...	...	...	3	...	1	1	...	...	2	...	
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3	7	24	37	31	16	...	119	4	10	21	10	5	10	7	10	2	9	1	1	2	13	1	3	10	
5	9	7	9	2	1	6	96	4	7	17	5	2	9	7	9	...	14	5	1	3	4	3	5	7	
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284	305	324	281	132	64	456	2341	107	176	406	163	71	325	112	201	62	308	92	69	125	311	41	119	109	



## CAUSES OF DEATH AT DIFFERENT PERIODS OF LIFE IN THE COUNTY BOROUGH OF BOLTON—1929.

(STATISTICS SUPPLIED BY THE REGISTRAR-GENERAL).

Causes of death	Sex	All Ages.	Under 1 year	1 and under 2	2 and under 5	5 and under 15	15 and under 25	25 and under 45	45 and under 65	65 and under 75	75 and over
ALL CAUSES	M	1348	156	52	40	36	40	126	399	327	157
	F	1447	113	54	44	32	50	162	385	302	300
Eberic fever	M	1	...	...	...	...	...	1	...	...	...
	F	...	...	...	...	...	...	...	...	...	...
Smallpox	M	1	...	...	...	...	...	...	...	1	...
	F	...	...	...	...	...	...	...	...	...	...
Measles	M	8	...	4	2	2	...	...	...	...	...
	F	3	...	...	3	...	...	...	...	...	...
Scarlet fever	M	2	...	1	1	...	...	...	...	...	...
	F	2	...	1	...	1	...	...	...	...	...
Whooping cough	M	40	13	14	11	2	...	...	...	...	...
	F	46	15	15	15	1	...	...	...	...	...
Diphtheria	M	4	...	...	2	...	1	1	...	...	...
	F	4	...	...	1	2	...	...	...	1	...
Infantile	M	92	3	2	4	...	6	11	24	26	10
	F	114	5	2	4	3	5	12	32	26	21
Opthalmia lethargica	M	5	...	...	...	1	1	...	1	2	...
	F	3	...	...	...	...	1	...	2	...	...
Diplococcal meningitis	M	2	1	...	1	...	...	...	...	...	...
	F	2	1	...	...	1	...	...	...	...	...
Tuberculosis of respiratory system	M	62	...	...	...	1	12	19	23	6	1
	F	62	...	...	1	...	14	39	8	...	...
Other tuberculous diseases	M	13	1	...	...	4	2	3	2	1	...
	F	11	...	...	2	3	1	3	2	...	...
Cancer, malignant disease	M	115	...	...	...	...	7	61	38	9	...
	F	92	...	...	...	1	11	48	21	10	...
Typhoid fever	M	1	...	...	...	...	1	...	...	...	...
	F	9	...	...	...	1	1	2	3	2	...
Measles	M	14	...	...	...	...	1	1	9	3	...
	F	30	...	...	...	1	...	2	14	11	2
Cerebral hæmorrhage, &c.	M	55	...	...	...	...	1	...	15	24	15
	F	69	...	...	...	...	...	1	26	20	22
Heart disease	M	202	...	...	...	...	1	16	71	82	32
	F	264	...	...	...	4	4	26	98	66	66
Arteriosclerosis	M	64	...	...	...	...	...	...	14	33	17
	F	110	...	...	...	...	...	...	16	29	65
Cholera	M	90	10	...	...	1	1	6	30	26	16
	F	129	8	7	1	1	...	4	29	50	29
Typhoid (all forms)	M	144	39	22	13	8	1	18	30	7	6
	F	114	25	24	12	3	3	8	19	13	7
Respiratory diseases	M	11	...	...	...	1	...	...	6	4	...
	F	10	...	1	...	...	1	2	5	...	1
Disease of stomach or duodenum	M	13	...	...	...	...	1	1	9	2	...
	F	5	...	...	...	...	1	1	2	1	...
Intestine, &c.	M	16	11	1	...	...	...	...	...	3	1
	F	14	6	1	...	1	...	2	2	...	2
Enteritis and typhilitis	M	3	...	...	...	1	1	1	...	...	...
	F	11	...	...	...	2	5	2	2	...	...
Diseases of liver	M	7	...	...	...	...	...	1	4	1	1
	F	5	...	...	...	...	...	...	5	...	...
Acute and chronic nephritis	M	50	...	1	...	1	1	7	23	13	4
	F	51	...	...	1	1	3	13	18	11	4
General sepsis	M	8	...	...	...	...	1	7	...	...	...
	F	...	...	...	...	...	...	...	...	...	...
Accidents and diseases of pregnancy and parturition	F	13	...	...	...	...	3	10	...	...	...
Infantile debility and malformation, premature birth	M	54	53	1	...	...	...	...	...	...	...
	F	33	31	1	1	...	...	...	...	...	...
Deaths from violence	M	16	...	...	...	...	...	2	13	1	...
	F	7	...	...	...	...	...	2	4	1	...
Undefined diseases	M	60	...	2	4	8	8	12	14	5	7
	F	18	...	...	...	1	...	2	1	9	5
Undefined or unknown	M	202	25	4	2	6	1	19	49	49	47
	F	207	22	2	3	5	6	13	48	41	67
	M	1	...	...	...	...	...	...	1	...	...
	F	1	...	...	...	...	...	...	1	...	...





